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ABSTRACT

The report focuses on a preservice and inservice Diversified Occupations (DO) training program to prepare teachers in vocational and practical arts education for educable mentally retarded (EMR) high school pupils. Described are the following topics: program context (which emphasized DO programs in 15 area vocational centers); program goals and activities (such as identification and training of personnel); selection of instructional content (as outlined in a teaching competencies checklist); instructional units (with two sample lectures provided); delivery system development, including workshops and Learning Activity Packages (LAPS); implementation of undergraduate and graduate course concentrations in DO; research on problems such as the development of instructional materials for EMR adolescents; and project evaluation. A major portion of the document is in the form of appendixes such as a lecture on understanding the mentally retarded, a sample LAP which contains directions for constructuring a silk screen, and a letter about slides which teach woodworking techniques. (LH)

ED 100089

FINAL REPORT
Project No. 5-0125
Contract No. OEG-0-71-4147 (603)

PROFESSIONALS DEVELOPMENT PROGRAM FOR VOCATIONAL EDUCATORS OF HANDICAPPED STUDENTS

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The research reported herein was performed pursuant to a contract with the Office of Education, United States Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated, do not, therefore, necessarily represent official Office of Education position or policy.

EC 070 584

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education
Bureau of Education for the Handicapped

ACKNOWLEDGEMENTS

Almost every major accomplishment for the education of handicapped children in Vermont may be traced in part or in full to the superb leadership of Miss Jean Garvin and her excellent staff in the Division of Special Education and Pupil Personnel Services, Vermont Department of Education. Miss Garvin and certain of her staff, principally Dr. William Halloran, initially conceived and secured funding for this Professional Development Program.

Much recognition for the success of this project must also be given to Mr. Arthur Ericson, Director of the Division of Vocational Education, and his predecessor, Mr. Cola Watson. Both of these directors have shown a keen sensitivity to the educational needs of handicapped children.

Credit for introducing the program into the University of Vermont's academic curriculum goes to Deans Dowe, Donovan, and Kelly of the College of Agriculture. The project is particularly indebted to the chairman of the Vocational Education and Technology Department, Dr. Gerald R. Fuller, for his excellent management of the project within the university sector.

While the program relied largely on local expertise for implementation, it acquired much valuable information from the research of others. In this regard, the program is indebted to such leaders in the field as Dr. Donn Brolin (University of Missouri), Dr. Jack Dinger (Slippery Rock State College), Dr. Hugh MacKensie (University of Vermont), Dr. Barbara

Bateman (University of Oregon), Dr. J. Russell Kruppa (Trenton State College), and Dr. Calvin J. Cotrell (Ohio State University.)

Many of the teachers who participated in the program also made significant contributions to its success. Certain teachers returned to teach segments of courses; others presented in-service training programs in their local school districts. It is obvious that the ultimate success of the program rests with these classroom teachers who are committed to effective teaching.

A review of the materials attributable to the project makes it apparent that the program would not have been possible without the dedication and cooperation of many people. Our deepest appreciation is extended to each individual who contributed to the program.

Mr. Marc E. Hull, Project Coordinator

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FOREWORD

Advocacy on behalf of mentally retarded citizens has greatly increased among hundreds of Vermont residents. Inspired by the efforts of a few tireless innovators, this spirit of concern has now permeated the state's legislative assemblies, courts, and public and private agencies, as well as the private homes and institutional "homes" where the handicapped reside. As groups of advocates have become aroused by unmet needs of retarded citizens, programs to address these needs have invariably evolved. This final project report focuses upon the development of one of these need-oriented programs: the DIVERSIFIED OCCUPATIONS PROFESSIONAL DEVELOPMENT PROGRAM.

A final report such as this can portray only a small fraction of the activities and accomplishments that have been generated since the inception of the program. Nevertheless, the authors hope that the contents selected for inclusion in the report will be informative and useful to individuals engaged in, or interested in initiating, similar educational programs.

Fortunately, the only component of the program that is completed at the present is this final project report. Because the program focuses on meeting viable needs and is supported by people who are both concerned and dedicated, the program will be continued.

Thus, if any segment of the final report merits further investigation, inquiries may be addressed to the Director of Special Education and Pupil Personnel Services of the Vermont Department of Education,

Montpelier, Vermont, 05601 or the Chairman of the Department of Vocational Education and Technology at the University of Vermont, Burlington, Vermont, 05401.

INTRODUCTION

Statutory requirements dating from 1956 obligated Vermont's public education districts to provide an equal educational opportunity for "all." Even so, it was not until the enactment of more substantial legislation that provisions were made for the creation of special programs, facilities, and staff which would focus on the needs of the handicapped. The first programs that were implemented for the handicapped concentrated on the needs of children at the elementary and junior high levels. Training for gainful employment remained more of a goal than a reality until the enactment of the 1963 Vocational Education Act and its 1968 Amendments. As a result of these acts, Vermont initiated a bold and comprehensive statewide program to make career training accessible to every educable mentally retarded pupil of high school age. After committing itself philosophically and financially, the state constructed fifteen large, comprehensive vocational education centers which would function in the State for vocational training of all students, including the handicapped.

The decision to incorporate a program for the educable mentally retarded in each of the Area Vocation Centers was a monumental one. Until then, the majority of the state's retarded children were being educated in privately controlled, segregated units, where comprehensive preparation for the world of work seldom amounted to more than a practical arts approach to woodworking or cooking.

The effort to locate an adequately trained vocationally oriented staff for handicapped students was much more difficult than anticipated. For one thing, experienced vocational and technical teachers usually had little or no experience in serving handicapped children, a situation not unique to Vermont, as noted by Freels (1967), Arnold (1968), Mauchline (1968), Brennan (1968), and Martin (1971). Furthermore, secondary level special education teachers often lacked an adequate knowledge of the vocational skills to be taught.

For these reasons, the Vermont Department of Education sought a grant from the Training Division of the United States Office of Education, Bureau of Education for the Handicapped. As soon as a grant had been secured, the State's Divisions of Special Education and Vocational Education enlisted the support of the University of Vermont's Vocational Education and Technology Department (VOTEC), in cooperation with the University's Special Education Department, to create a training program specifically geared to pre-service and in-service preparation of teachers in vocational and practical arts education for the handicapped.

CONTEXT OF THE PROGRAM

Each of the 15 high schools, designated as an "Area Vocational Center" (AVC), was funded to assist smaller high schools from the surrounding areas to provide vocational training on a shared time basis (see Appendix A).

Under a cooperative agreement (see Appendix B) between Special Education and Pupil Personnel Services and Vocational-Technical Education divisions of the Vermont Department of Education, provisions were made for all educable mentally retarded students of high school age to be incorporated in the AVC's in programs known locally as Diversified Occupations (D.O.).

At each center, pupils are oriented to the world of work through a planned series of laboratory experiences. At the same time, they are evaluated to determine interests and aptitudes in various career clusters corresponding to the occupational education programs available in the high school.

Each Diversified Occupations Program provides exploratory experiences in the following occupational areas:

1. WOODWORKING
2. METAL WORKING
3. BUILDING MAINTENANCE
4. AUTO SERVICES
5. GARDENING AND GROUNDS
6. LAUNDRY SERVICES
7. HOSPITALITY OCCUPATIONS
8. HEALTH OCCUPATIONS
9. OFFICE OCCUPATIONS
10. FOOD SERVICES
11. DISTRIBUTIVE OCCUPATIONS
12. PRINTING TRADE
13. HOMEMAKING
14. POWER MECHANICS

Consequently, the pupils with sufficient interest and aptitude are taught whatever skills will enable them to enter regular vocational programs for further training. This integration usually takes place during a student's third year, the same year that all students are admitted to vocational classes.

Those students who are integrated into the various vocational programs are carefully monitored by their D.O. instructors. If additional tutorial help is needed to maintain a student in the regular programs, it is provided during periods when the student can return to the D.O. program. Should the regular program prove too difficult for the student, he may return to the D.O. classes and prepare to enter a different vocational program.

Certain D.O. students are unable to participate meaningfully in any of the regular vocational programs. These students are taught specific job skills and placed in work-study situations in local business and industries (see Appendix C).

PROGRAM GOALS AND ACTIVITIES

At the time the Professionals Development Program was initiated, only two D.O. programs were operating in the state, but twelve additional programs were scheduled to open immediately or shortly thereafter. For this reason, a special effort was made to provide immediate assistance to the personnel who were instructing in the newly constituted D.O. programs.

Later, the project's staff began to identify various strata of personnel likely to come in contact with the handicapped student, and a broad-based training concept emerged (see Appendix D). The concept focuses on the proximity of each teacher and professional to the student as he progresses through the school system and into the world of work.

In time, workshops and courses of study were designed to sensitize the whole spectrum of professionals functioning within the secondary school sector to the needs and characteristics of educable mentally handicapped adolescents. Ultimately, undergraduate and graduate level courses were developed to offer in-depth training in the competency areas considered essential for instructing EMR students. In the period of three years, more than 500 teachers have been involved in the Professional Development program. The type of personnel and their training goals are depicted as follows:

TYPE OF PERSONNEL	NUMBER INVOLVED	STAFF DEVELOPMENT TRAINING GOALS
Diversified Occupation Specialists (pre-service and in-service)	50	Prepare to teach in D.O. program using competency based curriculum model
Occupational Education Specialists and Related Academic Teachers (pre-service and in-service)	300	Assist them to teach EMR students in regular programs
Administrators, Pupil Personnel and Guidance Specialists	45	Assist them to provide supportive services to D.O. pupils in the Area Vocational Centers
Elementary and Middle Special Education Teachers	100	Teach them career education concepts and assist them in developing career exploration activities
Undergraduate and Graduate Vocational and Practical Arts Students	75	Prepare them to teach EMR pupils in regular vocational or D.O. programs

The emphasis on various types of personnel varied from year to year (see Appendix E).

In addition to instructing personnel, the project carried out various activities related to the state's Diversified Occupations thrust. The following were among them:

1. Sponsor meetings of D.O. personnel to develop curriculum to write appropriate instructional objectives and enabling objectives for all areas of instruction
2. Improve skills in areas of need, for example, "administering occupational aptitude and interest tests"
3. Develop and modify instructional materials for use in D.O. programs and other occupational training programs
4. Improve linkages with Vocational Rehabilitation and related agencies

5. Work with selected agencies to more effectively provide career education for the physically handicapped and the moderately and severely retarded

6. Initiate research related to needs identified by D.O. personnel.

SELECTION OF INSTRUCTIONAL CONTENT

As previously noted, the identification of personnel to receive training was completed within days after the inception of the training project. Then, educational goals and objectives for the participants had to be identified and rendered into specific training activities. For the most part, these goals and objectives were derived from two sources.

First a Delphi Query instrument was developed and mailed to all Area Vocational Center directors, department chairpersons, and D.O. instructors. This activity generated more than 20 items for which teachers or administrators wanted additional information (see Appendix F & G).

The second major effort to derive the project's educational goals and objectives was the identification and selection of essential teaching competencies based on the studies of Bateman (69), Brolin (70), Cotrell (71) Kruppa (73), and others. After examining the writings of these researchers, the project's staff subsequently developed an Essential Teaching Competencies List, a comprehensive checklist of skills and attitudes to be used in training all members of the D.O. team (see Appendix H). Once completed, the Competencies List included over 200 skills needed by various educators in areas such as planning of instruction, guidance, classroom management, and achievement assessment.

In addition to functioning as a curriculum base, the Competencies checklist was specifically designed for use as an ongoing evaluative instrument. Trainees were required to assess their skills according to the checklist and to prioritize their own deficiencies and training needs. These individual competency assessments were weighted and computer-processed to establish group training priorities for the project. The group priorities helped to shape the focus of the courses and workshops. At appropriate intervals, individual competency assessments were again made to measure subsequent progress in the acquisition of the various competencies.

ORIGINATION OF UNITS OF INSTRUCTION

The Professionals Development staff is especially indebted to individuals and agencies who contributed to the development of units of instruction. Whenever feasible, the training project used university personnel from outside the department to prepare materials or presentations for instruction in areas outside the expertise of the department's staff (see Appendices I and J).

For most areas of instruction an extended review of the literature was made. The project was extremely fortunate to have the services of five research centers to make searches of the literature pertinent to each area of instruction.

These centers included:

1. New England Resource Center for Occupational Education (N.E.R.C.O.E.) Boston, Mass.

2. Area Cooperative Educational Services (A.C.E.S.) New Haven, Conn.

3. New England Instructional Materials Center (N.E.I.M.C.) Boston, Mass.

4. Twin State Education Information Services, Vermont Department of Education, Montpelier, Vermont.

5. Trinity Media Center, Trinity College, Burlington, Vt. (a N.E.I.M.C. satellite)

Whenever appropriate, computerized searches were made of the following files:

1. Abstracts of Research and Related Materials in Voc/Tech Education (ARM)

2. Abstracts in Instructional Materials in Voc/Tech Education (AIM)

3. Research in Education (RIE)

4. Educational Resources Information Center (ERIC)

5. Current Index to Journals in Education (C.I.J.E.)

6. Government Reports Announcements (GRA)

7. Council for Exceptional Children (CEC)

Often outside efforts to compile information were augmented by searches of resources available at the University of Vermont's two libraries, Baker Library at Dartmouth College, and the Inter-library Loan Service. The combined search procedures provided an excellent pool of resources from which to select supporting information for each unit of instruction.

What remained was the task of transcribing this useful information into functional units of instruction.

DEVELOPMENT OF A DELIVERY SYSTEM

Unlike some university-based programs, the Professionals Development Program could not accomplish its goals if exclusively anchored to a campus setting. Nor could all of the goals of the program be neatly packaged into the usual university course format.

Numerous points had to be considered when selecting a delivery system. Portions of units would need to be adapted to workshops, in-service sessions, or more extended courses of study. Maximum portability was also essential. After a careful review of several instructional alternatives, the staff elected to develop Learning Activity Packages (LAPs) which have continued to be modified, revised, and updated, in as many areas as possible. As one advantage, contents of the packages--movies, tapes, filmloops, videotapes, slide cassettes--could be easily mixed for use in public presentations. In addition to this feature, the LAPs were written to incorporate many of the components which the staff was encouraging participants to use in their respective classrooms. Among these were instructional objectives, pre- and post-tests, multimedia, and enabling objectives.

IMPLEMENTATION OF A D.O. CONCENTRATION

To teach secondary level special education classes in Vermont, one needs to obtain 6 credits in prescribed education courses and concurrently qualify for certification in a teaching field closely related to special education. For this reason, a Diversified Occupations major (30 credits) was never considered, although a D.O. concentration (9 credits) was arranged for those students who sought certification in Diversified Occupations in addition to their major in industrial arts or home economics (see Appendix M).

A similar concentration was created for individuals who sought to include such a concentration in their graduate level studies. A total of 12 hours of special education courses could be incorporated into a degree program. Of these, 6 hours or more had to be taken within the College of Education's Special Education Program (see Appendix N).

THE RESEARCH THRUST

From its inception the Professionals Development Program concentrated on providing practical solutions to some of the problems which D.O. teachers encountered in the field. Problems for which ample information was available were addressed through instruction. Problems for which there was little or no information were first researched and later added to the instruction (see Appendices O through W).

Among the problems incorporated into research activities were:

1. The validity of the Nonreading Aptitude Test Battery for educable and borderline intelligence students (Appendix O)

2. The implementation of a classroom management sampling device that would not require the presence of a third party data collector (Appendix P)

3. The monitoring of degrees of participation of D.O. students who integrate into regular vocational or academic classes (Appendix Q)

4. The selection, adaptation, and development of instructional materials for EMR adolescents (Appendix R)

5. The development of an EXIT PLAN that would open doors of assistance from appropriate agencies for students who might be in crisis when they are no longer in school (Appendix S)

6. A systematic program for teaching the nomenclature of numerous tools, equipment, and materials associated with various trades (Appendix T)

7. A fail-proof procedure for preparing EMR's to take their learner permits--a prerequisite for obtaining a Vermont driver's license (Appendix U)

8. The development of effective instructional media for pre-vocational laboratory use (Appendix V)

9. The development of comprehensive pre-vocational curriculum and achievement assessment materials (Appendix W).

EVALUATION OF THE PROJECT

Early in the development of the training project, an evaluation format was adopted which would provide for continual monitoring and revision of the program's objectives and activities. The format used for evaluating the project was initially presented at a Project Evaluation Conference sponsored by the Bureau of Education for the Handicapped, U.S.O.E. in Salt Lake City, Utah. This particular design includes four principal components:

1. Specification of an evaluation objective for each of the project's objectives;
2. An analytical breakdown of data requirements;
3. Identification of data gathering techniques and instruments;
4. Delineation of evaluation tasks and assignment of milestone dates.

Not long after the project's objectives had been rendered into the evaluation format, a third party evaluator, Dr. Robert Gable, University of Connecticut, was consulted to assist in the development of data gathering instruments.

A major evaluation activity focused on the documentation of skills and competencies acquired by participants in courses and workshops. This was accomplished by recording gains on pre- and post-test inventories and by monitoring the attainment of course objectives.

Pre- and post-tests that were statistically valid and reliable were developed for use in workshops and other short term encounters.

However, tests used in courses were seldom statistically analyzed to substantiate their validity. The emphasis in courses was on the attainment of course objectives.

Whenever possible, the project sought to determine if the skills acquired through participation in the project resulted in behavioral changes within the classrooms of the participants. This was difficult to determine with certainty because of the many variables that can influence teaching behavior. One of the project's major research efforts centered on this problem (see Appendix P). The year's program of work was also written in an evaluation format to allow the project staff to regularly evaluate their effectiveness (see Appendices X through Z).

SUMMARY OF CONCLUSIONS

Implementing a Professionals Development Program has presented numerous opportunities to "learn by doing." Some of the insights derived from these learning experiences have been noted. They should not, however, be construed as irrefutable facts, but as a summary of observations and insights.

For three years the Professionals Development staff has carefully observed Vermont's efforts to integrate pupils from D.O. classes into regular vocational classes. At present, nearly 50% of the eligible D.O. boys and 45% of the eligible D.O. girls have been integrated into regular vocational classes on a part or full time basis. We have noted, however, that most teachers feel that integration is profitable only to the extent that it leads to worthwhile learning experiences. The mere presence of EMR's in regular classes does not always mean that the system is meeting their needs. This is because some teachers and some curricula are not beneficial for those who have learning problems.

It would be presumptuous to imply that an infallible formula exists for preparing regular classroom teachers to successfully incorporate EMR's into their classrooms. There are, however, certain teaching practices that help to facilitate this goal. To integrate the handicapped, teachers should:

1. Develop a sensitivity to the learning styles of EMR's
2. Clearly state performance objectives and carefully construct task ladders of enabling objectives

3. Precede instruction with pre-test assessments to determine appropriateness of material to be presented

4. Present concepts to be learned in a clear, direct, and uncomplicated manner

5. Encourage continuous involvement of special students through repeated questioning and positive, corrective feedback

6. Regularly review concepts presented and provide for appropriate practice of all skills learned.

As one reflects on these skills, it is evident that a traditional "nature and needs" curriculum for preparing teachers to instruct the retarded is, at best, of moderate consequence. It should be regarded as axiomatic that to successfully teach the retarded one needs to know about and use the most effective teaching methods available to him. Presently there are numerous texts in the behavioral sciences which describe successful teaching practices for teachers of the handicapped. One excellent text that depicts successful teaching practices is Barbara Bateman's Essentials of Teaching. Authors that were well received by participants in this project include Wesley Becker, R. C. Anderson, Siegfried Engelman, and other educational researchers.

In recent years, numerous teaching techniques have been developed and refined which promise to promote learning. The Professionals Development project sought to explore the effectiveness of some of the emerging techniques with EMR's. The most successful approaches had certain elements in common: objectives, pre-tests, unambiguous presentations of information, corrective feedback, and post-tests. Also, most successful approaches made effective use of the classroom teacher.

Obviously, significant amounts of money are being channeled into programs of direct aid for the handicapped. For these services to be

optimally effective, however, the importance of supportive services such as the Professionals Development Program should not be overlooked.

RECOMMENDATIONS

If time and money were unlimited for educational purposes, much of each could be consumed by programs such as the Professionals Development project. Obviously, both items have limitations. For this reason, educational programs which receive funding should be kept effective by their leaders or by those who supply funds. What is more, effectiveness should be observable in terms of benefits to students, whether these benefits are direct or indirect. Unfortunately, very few valid instruments exist which reliably measure student behavior that is attributable to their teacher's participation in a particular training program.

One of our recommendations, then, is that instruments be developed which can reliably depict the efficiency of teacher training programs in terms of the student behavior.

We also recommend that effective educational materials or methods be given greater visibility. The ERIC clearing houses are excellent repositories of information, but too much time is presently required to separate valid and functional information from spurious or useless information.

For programs which truly seek to serve the needs of the mentally retarded, we recommend that a minimum effort be made to acquire information about the characteristics of the retarded, and that a maximum effort be made to learn about effective teaching methods.

Also, we recommend that the debates over the pros and cons of such issues as "behaviorism vs. humanism," "segregation vs. integration," "labeling vs. non-labeling" be curtailed in favor of promoting what is best for every retarded pupil--even if this means simultaneously utilizing elements of opposing philosophies and methodologies.

Finally, we recommend that all educators accept the challenge to modify mainstream educational programs to meet the needs of retarded pupils with as much enthusiasm as has been generated by those who seek to modify the behavior of retarded pupils so that they can be acceptable within education's prestigious mainstream.

APPENDIX A

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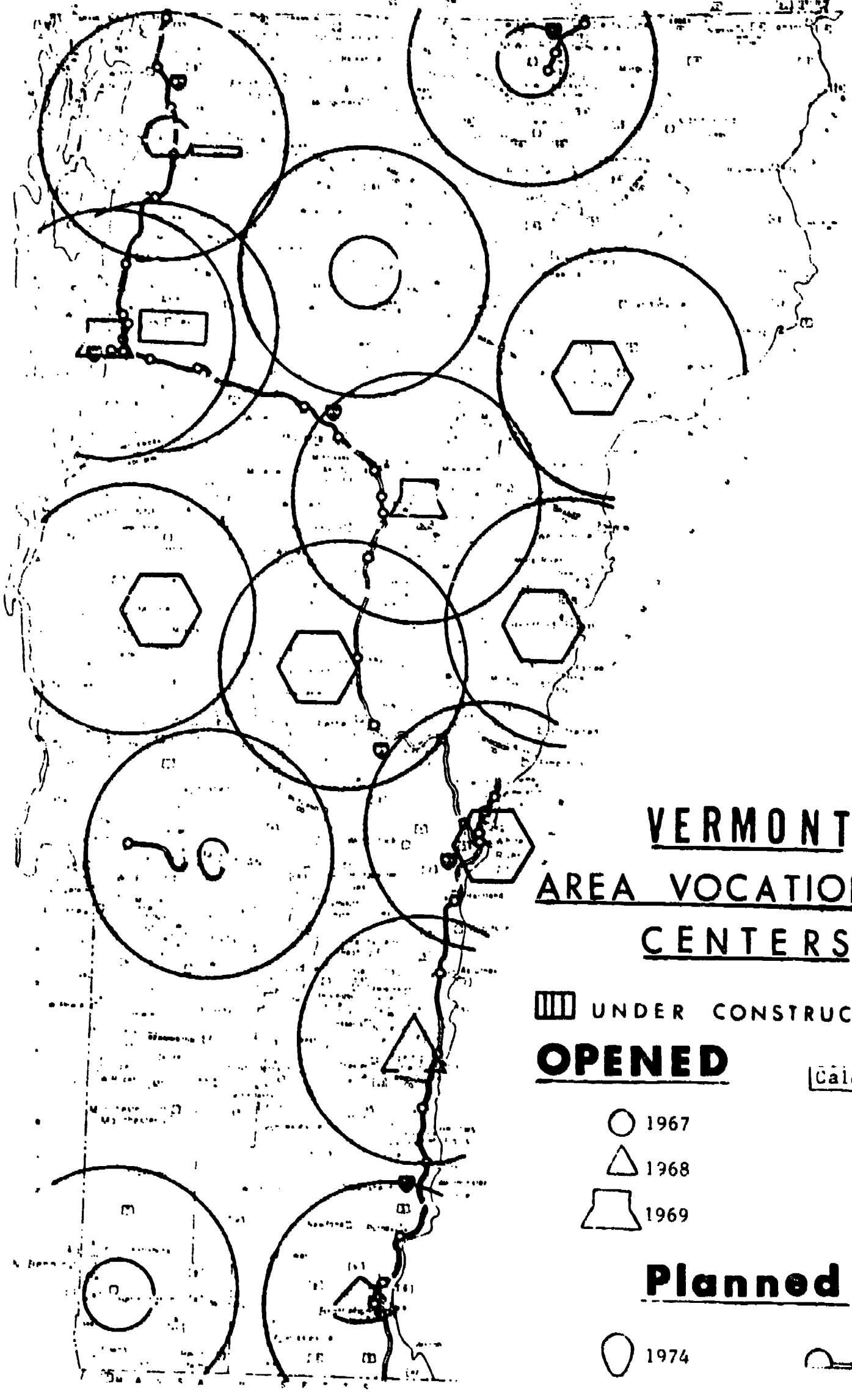


APPENDIX B

COOPERATIVE AGREEMENT
between
The Division of Special Educational and Pupil Personnel Services
and
The Division of Vocational-Technical Education

PROGRAMS FOR PUPILS WITH HANDICAPPING CONDITIONS
AT THE SECONDARY LEVEL IN AREA VOCATIONAL HIGH SCHOOLS

I. The senior high programs for pupils defined as handicapped shall include or make plans for the following:

   a. Opportunity for the maximum social, academic, and vocational development of the individual pupil

   b. Opportunity to reduce economic ineffectiveness

   c. Joint cooperation among special education, vocational education, and vocational rehabilitation services

II. Program operation shall include or make plans for:

   a. Vocational training programs located within the area vocational centers and designated as a program of the center

   b. A program under the direction of the local vocational education director, who will provide overall supervision to this program, along with the entire area vocational center program

   c. A program design showing variation and adaptability to the area center within which the program is located

   d. The use of resources of government, labor, and industry in program development and implementation

   e. Clear administrative procedures for effective communication within the complex to maximize emphasis on pupils' needs

III. Eligibility of Pupils

   a. Handicapped pupils are those pupils defined by the Vocational Education Amendments of 1968 as follows: "The term 'handicapped' when applied to persons, means persons who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled or other health impaired persons who by reason thereof require

special education and related services."

b. Standards of eligibility for the particular types of handicapping are spelled out in the ESEA, Title VI-A Plan, Education of Handicapped Pupils in Vermont.

c. Pupils accepted for reimbursement are those pupils who meet the standards spelled out in ESEA, Title VI-A.

IV. Instructional Program

a. A program shall be designed to strengthen the abilities of the handicapped learner and to overcome or circumvent the particular learning and physical disabilities of the pupils. Programs designed on the basis of the usual labels of handicapping are discouraged.

b. A handicapped pupil should be prepared in the instructional program for emerging occupations, as well as for existing occupations. The instructional program should be designed in such a way that the handicapped pupil can advance to higher levels of training.

c. The curriculum of the program should be constructed so that the learner can evaluate his own progress.

d. The program for pupils with retarded mental development shall be called diversified occupations.

e. Program design, whether special class, integrated program, or a combination of the two, should be decided on the basis of which design offers greatest opportunity for pupils' skill development, rather than upon any administrative convenience within the school.

V. Funding

a. Approved programs within the area vocational shcools will receive a budget from the division of special educational and pupil personnel services according to a contract worked out between the local educational agency and the Department of Education.

b. Town school districts cooperating under this plan are billed their elementary per pupil cost after the year of the education of their pupil.

c. Cost of construction of classroom space, which is a part of the area vocational center and houses special education programs, may be funded at 75% cost of construction under 16 V.S.A. §3448. The remaining 25% may be funded from area vocational construction monies when available.

d. Approved movable equipment for vocational laboratories involving special education pupils will be funded by vocational education at 100%. Usual classroom equipment for related courses will be funded 100% under the budget of the division of special educational and pupil personnel services when the program is approved.

e. Certain approved vocational costs are reimbursed by vocational education on a basis similar to other vocational programs. This includes staff costs.

f. Approved replacement of new equipment for ongoing vocational programs will be funded by the vocational and technical education division at the rate of 50% funds, when these funds are available in any fiscal year for this purpose.

VI. Certification of the Staff

All professional personnel will be certified under the State Department of Education regulations in this cooperative vocational-special education program. Standards set by each division are taken into consideration in certification.

VII. Supportive Staff

Intensive counselling should be made available to individuals and groups within the program. Personnel from vocational rehabilitation should be considered part of the supportive services offered by the school to handicapped pupils.

The handicapped pupil should have counselling so that he can be part ofhis own decision-making process in determining his vocational future and programs appropriate to himself.

VIII. Submission of Applications

The local educational agency shall annually submit a Local Plan for vocational education, which shall contain program plans for all programs, services, and activities for the handicapped which include occupational training at the high school or adult levels. The Plan shall include both an annual fiscal year plan and a five-year projected plan.

IX. Action on Local Plans

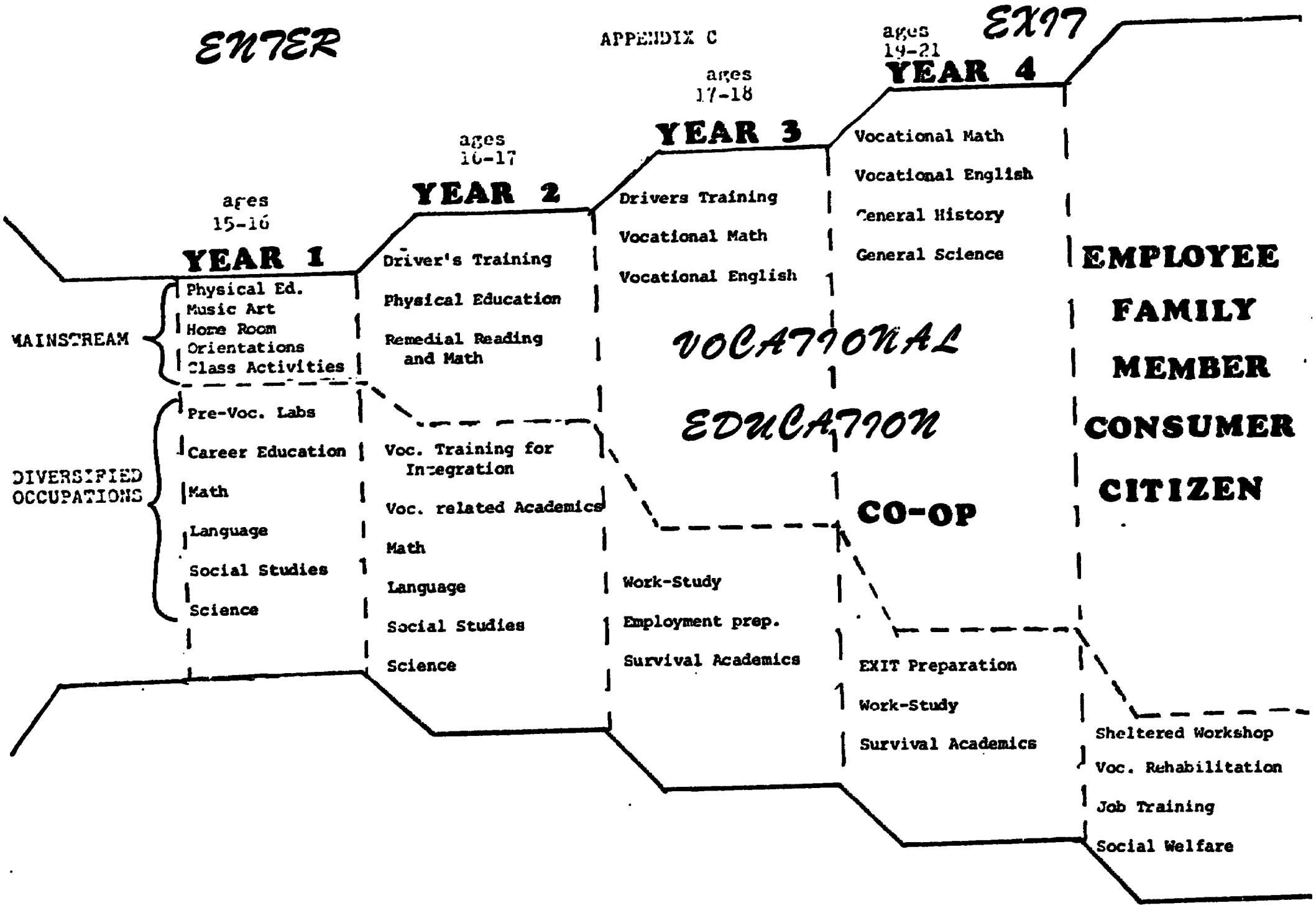
The division of special educational and pupil personnel services will review all Local Plans or Local Proposals relating to programs for the handicapped and make recommendations to the director of vocational-technical education. The director of vocational-technical education will be responsible for final determination regarding approvals of Local Plans or Proposals.

X. This coopeartive agreement shall be reviewed annually by both parties and, unless modified, shall remain in effect on a continuing basis.

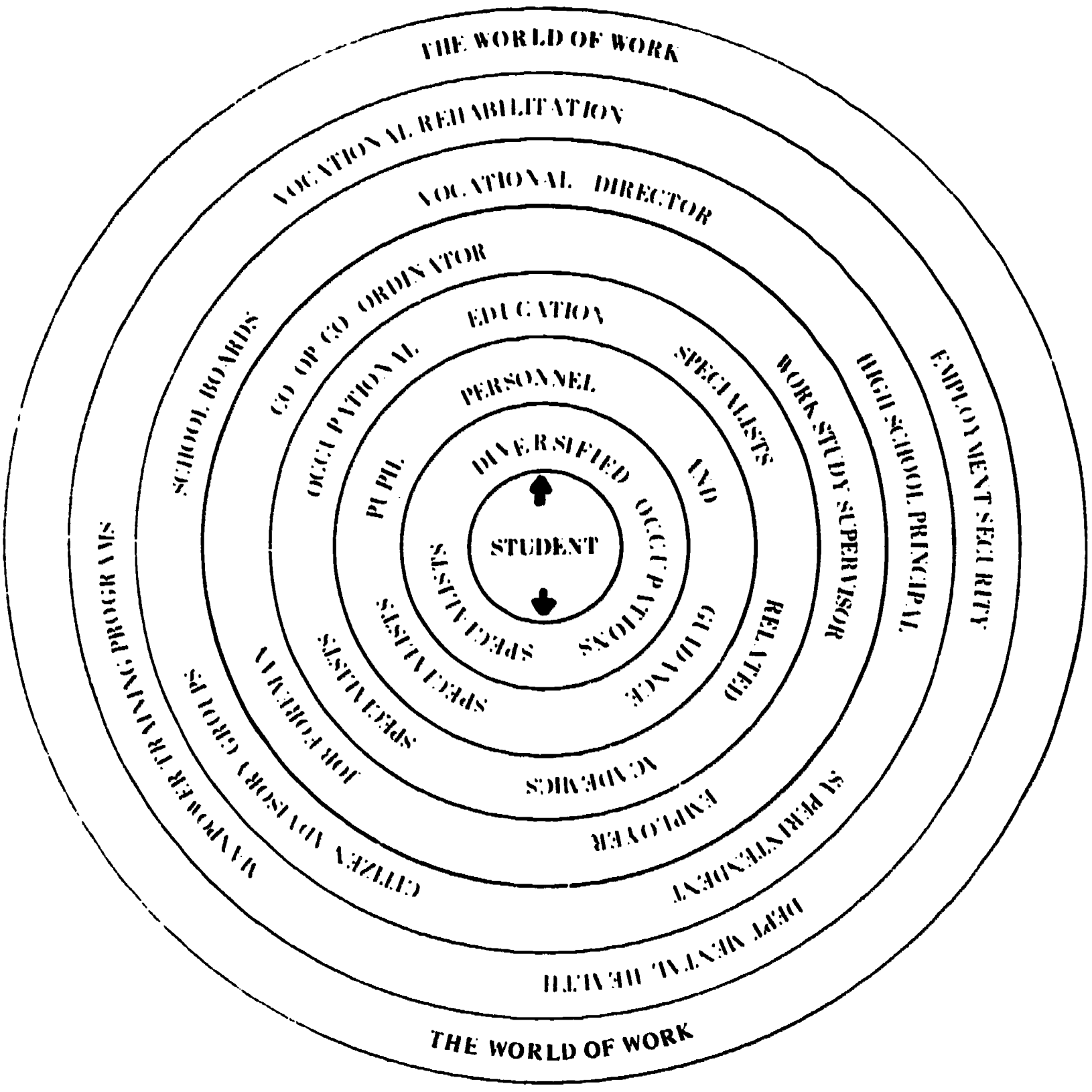
Date:_____ _____
Director, Special Educational and Pupil Personnel Services

Date:_____ _____
Director, Vocational-Technical Education

APPENDIX C


ENTER
ages 15-16
YEAR 1
ages 16-17
YEAR 2
ages 17-18
YEAR 3
ages 19-21
YEAR 4
EXIT
MAINSTREAM
Physical Ed.
Music Art
Home Room
Orientations
Class Activities
DIVERSIFIED OCCUPATIONS
Pre-Voc. Labs
Career Education
Math
Language
Social Studies
Science
Driver's Training
Physical Education
Remedial Reading and Math
Voc. Training for Integration
Voc. related Academics
Math
Language
Social Studies
Science
Drivers Training
Vocational Math
Vocational English
Work-Study
Employment prep.
Survival Academics
Vocational Math
Vocational English
General History
General Science
VOCATIONAL EDUCATION
CO-OP
EXIT Preparation
Work-Study
Survival Academics
Sheltered Workshop
Voc. Rehabilitation
Job Training
Social Welfare
EMPLOYEE
FAMILY MEMBER
CONSUMER
CITIZEN

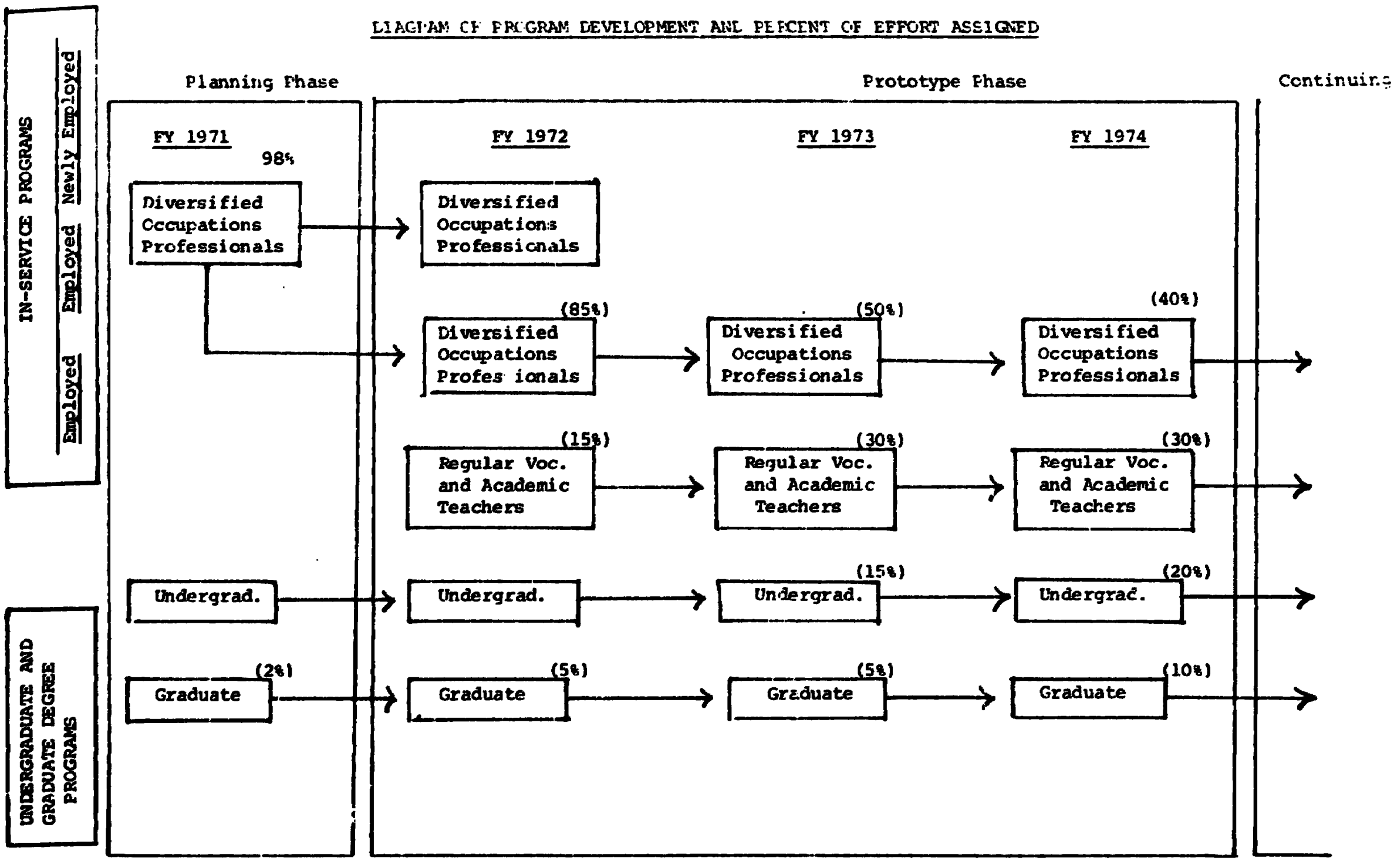
DIVERSIFIED OCCUPATIONS



EDUCATION PROFESSIONALS TEAM

APPENDIX E

DIAGRAM OF PROGRAM DEVELOPMENT AND PERCENT OF EFFORT ASSIGNED



APPENDIX F

To: FVC Staff

From: VOTEC P.D. project

RE: Delphi Query I

At the V.E.A. Teacher's Convention we discussed the implementation of a survey to determine activities or courses which would help instructors improve their teaching of high school aged mentally retarded pupils. The VOTEC Department will use the results of the survey to assist in determining the content of future courses offered to special education personnel. Please be as specific and as honest as possible.

We are enclosing the list of teachers who will be participating in the survey. Please return one copy in the enclosed envelope by November 15, 1974.

I feel that the following kinds of activities or courses would help me improve my teaching.

REMINDER: KEEP 1 COPY--RESPOND BY: NOVEMBER 15, 1974

APPENDIX G

To: AVC Staffs

From: VOTEX P.D. project

RE: Delphi Query II

As a result of the first round of our delphi query, the following course or workshop items were generated:

1. What time should be spent on continuation of remedial reading and math?

2. How do you individualize instruction to provide for wide range of ability levels?

3. How do you deal with the students who call themselves "retards" or hear others call them such names?

4. How to convince administration to award diplomas to D.O. students?

5. How do you render persisting life studies into required course format?

6. How do you schedule EMR's so that they can fit into regular programs yet receive needed remedial or tutorial help?

7. How do you get regular voc. instructors to accept C.O. students?

8. How do you get jobs for D.O. students?

9. How do you help D.O. students overcome their reluctance to leave the confines of the D.O. classrooms?

10. What are the most important things to teach?

11. How does one teach social skills?

12. What are the social agencies that can help us with problem students?

13. How do we keep the community aware of the benefits of D.O.?

14. What is multisensory teaching?

15. How does one handle behavior problems?

16. What reporting system should be used to record pupil progress?

17. What teaching techniques have proven successful with EMR's?

18. What does one do about the students who can't read any of the usual text used in the classroom?

19. How do you deal with parents who show too little concern for their child's progress or who exhibit unrealistic expectations for their child?

20. To what extent does one get involved in problems outside the school with D.O. students?

Each item is numbered; you are to select the top five items that you wish to have incorporated in future courses and workshops--submit this list within three days after receipt to your AVC Director.

APPENDIX H

DIVERSIFIED OCCUPATIONS TEACHER COMPETENCIES CHECKLIST

Based on the research of:

Dr. Donn Brolin, Stout State University, Michigan

Dr. J. Russell Kruppa, Trenton State College, New Jersey

Dr. Barbara Bateman, Oregon

Dr. Cotrell, Ohio State University Center for Occupational Education

DESIGNING INSTRUCTION:

The teacher will:

_____ 1. Identify the role and function of advisory committees.

_____ 2. Establish the criteria for selecting a D. O. advisory committee member.

_____ 3. Plan an agenda to be considered by a D. O. advisory committee.

_____ 4. Complete a job analysis of two occupations appropriate for EMR pupils to enter. Use the D. O. job analysis format.

_____ 5. Observe a prescribed job station and complete a task analysis of the skills and related information needed for the job.

_____ 6. Interpret scores of an occupational aptitude test such as the General Aptitude Test Battery in terms of designing classroom instruction.

_____ 7. Interpret scores of an occupational interest survey such as the Ohio Vocational Interest Survey in terms of designing classroom instruction.

_____ 8. Describe how to incorporate occupational standards of performance into a pre-vocational curriculum.

_____ 9. Identify personal, social and academic competencies required for the successful performance of a job that is suitable for D. O. students.

_____ 10. Construct an instructional sequence of skills based on a task analysis.

_____ 11. Write the educational goals for a Diversified Occupations pre-vocational curriculum.

_____ 12. Write terminal performance objectives in three domains; cognitive, psychomotor, and affective.

_____ 13. For any given terminal objective, list and sequence all the necessary sub-tasks which, when the student has mastered them, will enable him to perform the objective.

_____ 14. Write a lesson plan that identifies specific outcomes, designates methods and media, and provides for evaluation.

_____ 15. Given a description of a desired pupil behavior, write an analysis for that behavior.

_____ 16. Describe how to coordinate instructional objectives with other teachers in a D.O. program.

DIRECT PURPOSEFUL INSTRUCTION:

The teacher will:

_____ 1. Form instructional groups based on pre-test assessments of students.

_____ 2. Demonstrate "attention getting" skills.

_____ 3. Praise certain appropriate behaviors; ignore certain inappropriate behaviors

_____ 4. Present information in a clear, direct, accurate manner.

_____ 5. Solicit student feedback on information presented.

_____ 6. Use a variety of questioning techniques.

1. recall
2. synthesis
3. application of principle
4. judgement

_____ 7. Respond to incorrect responses.

_____ 8. Respond to correct responses.

_____ 9. Describe methods of reinforcing pupil behavior.

_____ 10. Use reinforcement techniques to change and maintain behaviors.

_____ 11. Give prompts and cues which will lead students to give correct responses.

_____ 12. Analyze classroom interaction using Transaction Analysis matrix and/or Flanders Interaction Analysis matrix.

_____ 13. Implement a token economy system for classroom management.

Present information using:

_____ 14. Demonstrations

_____ 15. Exhib

_____ 16. Video tape

_____ 17. Cassette recorder

_____ 18. 35mm slides

_____ 19. Motion pictures

_____ 20. Single concept films (film loops)

_____ 21. Programmed materials

_____ 22. Chalkboard, flannel board, flip chart

_____ 23. Lecture

_____ 24. Role playing

_____ 25. Simulations

_____ 26. Adapt follow-up activities from a group presentation that take into account individual skills within the group.

_____ 27. Modify verbal presentations according to language comprehension ability of students.

_____ 28. Describe specific action for resolution of learning/ behavior problems.

_____ 29. Describe techniques for relating to individuals in groups.

_____ 30. State alternatives to making stereotyped demands on students exhibiting inappropriate behavior.

_____ 31. Apply non-verbal techniques (gestures, facial expressions, silence, etc.) to enhance communication.

_____ 32. Use humor to achieve relaxed classroom atmosphere.

_____ 33. Accept and/or clarify pupil statements in a positive or neutral fashion.

_____ 34. Record student behavior while instructing.

_____ 35. Derive classroom rules in a democratic fashion and maintain them.

DEVELOPING INSTRUCTIONAL MATERIALS

The teacher will:

_____ 1. Visit one of Vermont's two New England Instructional Materials Center satellites: Trinity Media Center or St. Joseph's Media Center to obtain their acquisition list.

_____ 2. Name "n" commercial materials one might employ to attain specified instructional objective.

_____ 3. Given a specific instructional objective, and relevant entering pupil behaviors, develop appropriate learning materials.

_____ 4. Develop a unit of instruction using a multi-sensory activities checklist. Include reading and math experiences, oral and written expression, art expression, field trips, demonstrations, listening and hands-on experiences.

_____ 5. Develop alternative modes of presentation for repetition of content.

_____ 6. Describe remedial techniques that will reinforce lesson content for students who need additional help.

_____ 7. Modify and/or construct materials appropriate to specific objectives, and evaluate the effectiveness of material.

Develop instructional materials which require the use of the:

_____ 8. Spirit duplicator

_____ 9. Mimeograph machine

_____ 10. Photocopier

_____ 11. Ektagraphic camera set

_____ 12. Tape recorder

_____ 13. Video tape recorder

_____ 14. Orator or primary typewriter

_____ 15. Language master

_____ 16. 35mm projector

_____ 17. Film strip project

_____ 18. Opaque projector

_____ 19. Overhead projector

_____ 20. 16mm motion pictures

_____ 21. Filmloop projector

_____ 22. Video tape projector

_____ 23. Cassette recorder

_____ 24. Language master

_____ 25. Bulletin board

_____ 26. Exhibit

_____ 27. Models

_____ 28. Devise a filing system for instructional materials.

_____ 29. Describe a system for evaluating instructional materials.

_____ 30. Set up a study carrel for individualized instruction.

EVALUATING INSTRUCTION

The teacher will:

_____ 1. State educational goals so that their attainment is measurable, and then measure their attainment.

Assess pupil lab performance by the following criteria:

_____ 2. Speed

_____ 3. Accuracy--error counts

_____ 4. Discrimination (proper tools and equipment, movements)

_____ 5. Economy of effort

_____ 6. Timing (simultaneous operations)

_____ 7. Intensity (Strokes, turn, pressure)

_____ 8. Coherency

Evaluate student projects by the following criteria:

_____ 9. Appropriateness of materials

_____ 10. Workmanship

_____ 11. Correspondence to plans

_____ 12. Accuracy of measurements, angles, etc.

_____ 13. Finish

_____ 14. Form instructional groups based on pre-tests.

_____ 15. Construct pre- and post-tests for a lesson.

_____ 16. Modify a lesson based on information from a pre-test.

_____ 17. Record pupil behavior change utilizing at least two different systems.

_____ 18. Evaluate specified recording systems.

_____ 19. Record pupil achievement for a unit of at least 3 weeks duration.

_____ 20. Construct a performance test.

_____ 21. Construct a written test utilizing:

a) drawings, diagrams
b) true, false
c) multiple choice
d) matching items

_____ 22. Develop a work sample test.

_____ 23. Prepare an observation form for evaluating lab performance. Use a descriptive or graphic rating scale.

_____ 24. Make an evaluation using anecdotal records.

_____ 25. Develop a group progress wall chart for monitoring individual and class achievement.

_____ 26. Record a specified behavior for a behavior modification program.

_____ 27. Evaluate classroom with time sampling recorder and transactional analysis format.

_____ 28. Record and evaluate your classroom behavior according to the following criteria:

a. number of positive reinforcing statements
b. number of negative statements
c. % of time engaged in question asking
d. % of time in information giving
e. % of time in housekeeping, or disciplining
f. % of time listening to students
g. % of time giving corrective or positive feedback

_____ 29. Administer a vocational interest survey.

_____ 30. Administer a vocational aptitude test.

_____ 31. Devise a filing system for maintaining student evaluations.

PROVIDING STUDENT GUIDANCE:

The teacher will:

_____ 1. Present information to students on occupational opportunities; include all occupational clusters offered in diversified occupations labs.

_____ 2. Interpret occupational tests and inventories to students.

_____ 3. Confer with student and his parents regarding the student's educational development.

_____ 4. Conduct a conference for counseling a student.

_____ 5. Encourage two-way communication during a conference with a student.

_____ 6. Conduct group counseling sessions.

_____ 7. Arrange with the guidance or vocational rehabilitation counselor for administration and interpretation of personality, aptitude and interest tests for specific students.

_____ 8. Refer students to private and public personnel agencies for occupational and educational information. (Explain charges made by private employment agencies).

_____ 9. Arrange for local office of the State Employment Security or Vocational Rehabilitation and to interpret the General Aptitude Test Battery.

_____ 10. Write letters of recommendation for students.

_____ 11. Assist students in preparing for interview with potential employers.

_____ 12. Assist students in securing and in filling out applications for jobs, manpower training programs, or evening school.

_____ 13. Assist students with their problems by working cooperatively with agencies such as the health and welfare services, vocational rehabilitation, and mental health department.

_____ 14. Analyze student's cumulative records.

_____ 15. Assist students in developing good study habits.

_____ 16. Recognize potential problems of students.

_____ 17. Assist students in determining ways to best describe their salable skills.

_____ 18. Refer students to guidance counselor and other specialists.

_____ 19. Supply guidance counselor with performance data about students.

_____ 20. Maintain anecdotal records on students.

_____ 21. Encourage students to discuss career aspirations.

_____ 22. Conduct 2 home visits per academic year.

CONDUCTING RESEARCH:

The teacher will:

_____ 1. Critically evaluate research in terms of:

a. clarity in stating the problem
b. design
c. data analysis
d. utilization potential in the instructional setting

_____ 2. Formulate and conduct an evaluative research project with respect to an instructional problem.

_____ 3. Evaluate the appropriateness of resources: primary (e.g., tests, journals, etc.), secondary (e.g., ERIC, card catalogs, educational and psychological indexes) and people for solving educational problems.

_____ 4. Use resources: primary, secondary, and people to solve information retrieval problems.

_____ 5. List 5 instructional resources related to teaching EMR's.

_____ 6. State essential provisions made for the education and employment of the handicapped under existing local, state, and federal law.

_____ 7. Participate in experiemntal and other data--collecting research activities.

_____ 8. Apply for a mini-grant or exemplary funds to carry out a research project.

MANAGING THE CLASSROOM:

The teacher will:

_____ 1. Compile a list of supplies needed for the academic year.

_____ 2. Submit supply list to Consultant, Special Education and Pupil Personnel Services.

_____ 3. Identify new tools and equipment needed in a vocational course for the academic year.

_____ 4. Prepare a capital outlay budget proposal, in accordance with local vocational center policy, for new equipment needed in a vocational course.

_____ 5. Plan an operating budget proposal for consumable supplies, services, and materials needed in a diversified occupations program area.

_____ 6. Prepare purchase orders for approved vocational equipment and supplies.

_____ 7. Describe the procedure for acquiring the consumable supplies and materials needed in a Diversified Occupations program.

_____ 8. Recommend reference books and periodicals related to vocational education for the handicapped that should be added to your personal school library.

_____ 9. Maintain an inventory of vocational tools, supplies, and equipment assigned to the laboratory.

_____ 10. Submit inventory to Vocational Director for approval.

_____ 11. Establish a system for repairing and servicing tools and equipment in a Diversified Occupations laboratory.

_____ 12. Arrange for the storage and security of laboratory supplies and equipment.

_____ 13. Formulate with students acceptable standards of behavior in Diversified Occupations classrooms and laboratories.

_____ 14. Uphold acceptable standards of student behavior in Diversified Occupations classrooms and laboratories.

_____ 15. Describe your plan to control outbursts of fighting and aggressive behavior using specified behavior modification techniques.

_____ 16. Devise and implement student "check out" procedures for tools, supplies, and equipment used in the vocational laboratory (simulate procedures used in local job stations).

_____ 17. Present proof that you have scheduled laboratory equipment for maximum utilization by students.

_____ 18. Direct students in a system for cleaning and maintaining the Diversified Occupations laboratory.

_____ 19. Arrange layout of vocational laboratory to simulate occupational environment.

_____ 20. Arrange laboratory work areas and storage space to facilitate student work performance.

_____ 21. Provide approved safety apparel and devices for vocational students assigned to hazardous equipment.

_____ 22. Establish a procedure for attending first aid needs of Diversified Occupations students.

_____ 23. Establish a policy with AVC director for use of the physical facilities by outside groups and other school personnel.

_____ 24. Supply administrators with data for progress reports required by the State Department of Education.

_____ 25. Devise a system for maintaining occupational information and opportunity data for use by Diversified Occupations students.

_____ 26. Maintain a record of safety instructionpresented in compliance with safety laws and regulations.

_____ 27. Maintain a record of individual work hours, wages, and work progression of on-the-job training.

COMMITMENT TO EDUCATIONAL PROFESSION:

The teacher will:

_____ 1. Support professional organizations through membership and attendance at meetings.

_____ 2. Participate in non-instructional school duties, i.e., cafeteria, homeroom, bus duty, chaperoning, PTA.

_____ 3. Maintain professional certification through enrolling in graduate, extension, and in-service education programs.

_____ 4. Expand educational background and leadership potential by achieving advanced degrees.

_____ 5. Acquire new occupational skills needed to keep pace with technological advancement in his teaching field.

MAINTAINING COMMUNITY RELATIONS:

The teacher will:

_____ 1. Participate in an open house to familiarize members of the school and community with activities of the Diversified Occupations program.

_____ 2. Speak to school and community groups on the Diversified Occupations program.

_____ 3. Obtain informal feedback on the Diversified Occupations program through contacts with individuals in the school and community.

_____ 4. Obtain information from parents relative to their expectations of the Diversified Occupations program.

_____ 5. Consult advisory committee to obtain information concerning their expectations of the Diversified Occupations program.

_____ 6. Maintain liaison with union officials and employers.

APPENDIX I

MENTAL RETARDATION IN HYDROCEPHALUS AND CRANIOSYNOSTOSIS

Henrique S. Ivamoto, M.D.
Division of Neurosurgery, U.V.M.

These two diseases are associated with mental retardation in a significant proportion of cases, and both are treated surgically. Hydrocephalus is more common than craniosynostosis.

PART I: HYDROCEPHALUS ("water head")

Anatomy and Physiology

There are four ventricles (cavities) within the brain: lateral ventricles (right and left), third ventricle, and fourth ventricle. Cerebrospinal fluid is produced mainly by the choroid plexus, most of whichlies in the lateral ventricles and some in the third and fourth ventricle. The daily production of cerebrospinal fluid (CSF) in the adult is approximately one pint. The fluid drains from the lateral ventricles into the third ventricle, from here it passes through a narrow canal (aqueduct) into the fourth ventricle, and then comes out around the brain through three orifices (one is called foramen of Magendie and the other 2 are called foramina of Luschka). From here, it moves upwards around the brain, and most of it is absorbed and drained into the superior sagittal sinus, a large vessel carrying venous blood that lies in the top of the brain, in between the two cerebral hemispheres. Part of the fluid that leaves the fourth ventricle moves downward around the spinal cord, and then returns and moves toward the superior sagittal sinus.

Pathophysiology

Hydrocephalus is an abnormal accumulation of fluid within the ventricles, which have become dilated.

Most cases of hydrocephalus are caused by an obstruction to the flow of fluid. Obstruction can be caused by a tumor in the third ventricle; a tumor in the fourth ventricle, a tumor in the neighborhood of the fourth ventricle compressing it; a post-infectious scar in the aqueduct; a congenitally narrow or absent aqueduct; a congenitally absent exit from the fourth ventricle; meningitis blocking the flow around the brain surface; blood (birth trauma) blocking the flow around the brain surface; etc.

Block on the draining system
↘
accumulation of fluid
↘
increased fluid pressure within the ventricles
↘
dilatation of the ventricles (hydrocephalus)

Clinical picture

The head becomes abnormally large. This can be determined by plotting the head circumference in the Anthropometric Chart supplied by the Children's Medical Center, Boston. Plot also the weight, and the length of the child. If the child has a very large head and normal weight and length, he obviously has an abnormally large head, and hydrocephalus may be the cause of it.

The scalp becomes stretched and shiny in the more advanced cases. The scalp veins dilate. The eyes look down and the sclera over the iris becomes apparent (sun-set sign). The fontanelle may be abnormally large and bulging.

An older child may complain of headache, especially on arising in the morning. He may also vomit, usually on arising or sometime in the morning. He may show difficulties walking, difficulties learning new skills.

Another important problem is impairment of vision, which may vary from a slight decrease in the visual acuity to a total blindness. Squint (crossed eyes) is another complication of hydrocephalus.

A neurological examination will disclose other signs. Special X-ray tests will determine the degree and the cause of the hydrocephalus.

Surgical Treatment

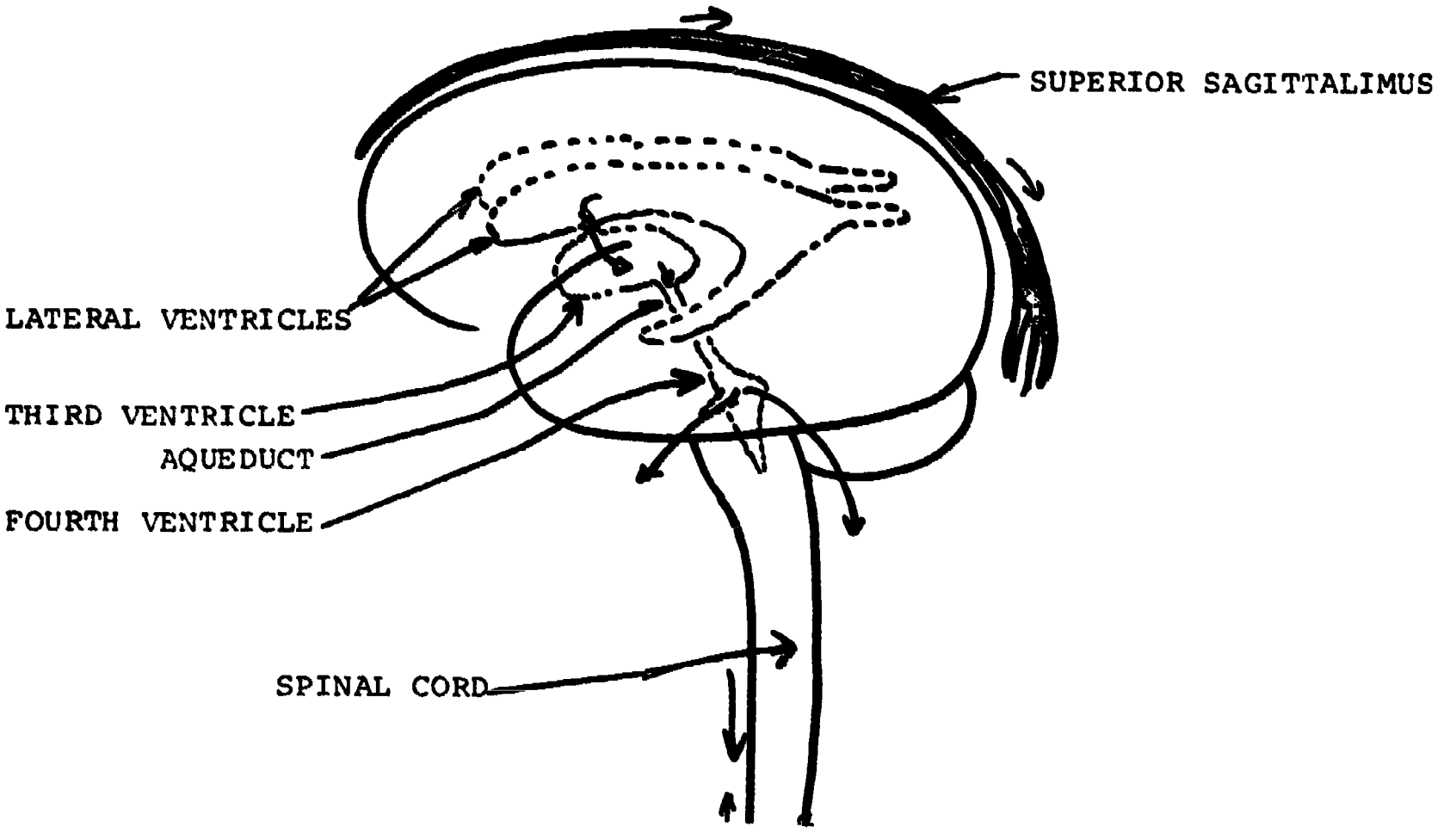
If the hydrocephalus is caused by a tumor or a cyst blocking, say, the fourth ventricle, the treatment will consist of removing the tumor or the cyst.

If the hydrocephalus is caused by a block that cannot be corrected by a direct surgical approach (such as adhesions around the brain surface caused by meningitis or bleeding; congenital absence of the aqueduct; a large malignant tumor blocking the aqueduct or the third ventricle), there will be two ways of dealing with the problem. One will be to excise the choroid plexus in the lateral ventricles, which will result in a decreased production of fluid and therefore a decreased fluid pressure within the ventricular system. The other way of dealing with the problem is to drain the fluid from the ventricles to the outside of the brain, or to the heart, or to the peritoneal cavity (abdomen), or to the pleural cavity (chest), or to other areas. This is called a shunting procedure, whereby the fluid bypasses the point of obstruction in the system. Most children with hydrocephalus are, at the present time, treated with either a ventriculo-peritoneal shunt, or a ventriculo-atrial shunt. In the ventriculo-peritoneal shunt, a tube is placed in one of the lateral ventricles (usually the right), is connected to a valve and reservoir under the scalp, and this is connected to another tube that is placed under the skin and brought to the abdomen, emptying into the peritoneal cavity.

In the ventriculo-atrial shunt, a tube is placed in one of the lateral ventricles (usually the right), is connected to a valve and reservoir under the scalp, and this is connected to another tube that is placed into a vein in the neck, ending in the right atrium (part of the heart).

THE CEREBROSPINAL FLUID PATHWAY

(FIGURE 1)



CHOROID PLEXUS IN LATERAL VENTRICLES

THIRD VENTRICLE

AQUEDUCT

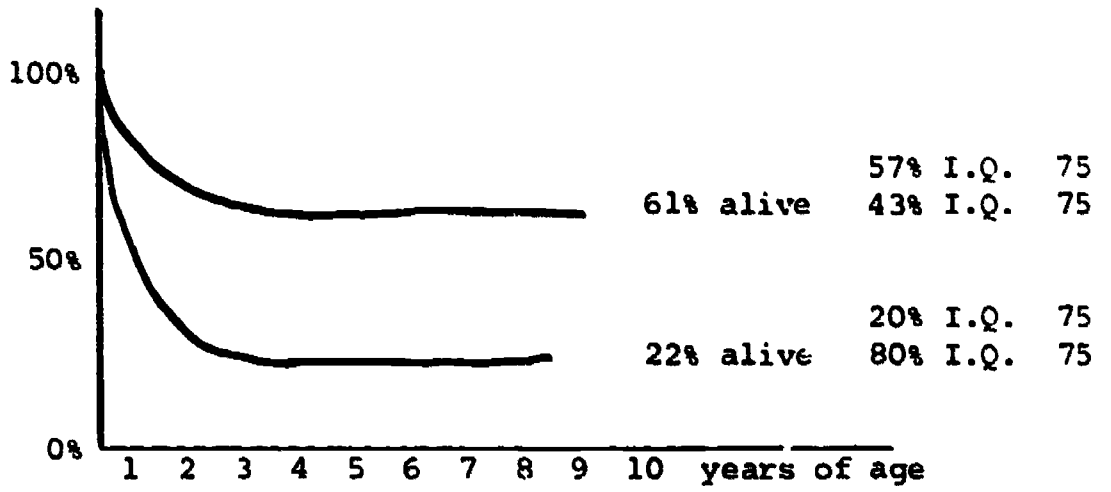
FOURTH VENTRICLE

OUTSIDE OF BRAIN, AT THE BASE

UPWARDS AROUND BRAIN

SUPERIOR SAGITALL

Prognosis



Many or these children with hydrocephalus will die furing their childhood. Among those who aren't operated on, 22% will reach the age of 10 years. 20% of these children will have an I.Q. above 75 and can be considered functional. 80% will have an I.Q. below 75.

Among those who are operated on, 61% will reach the age of 10 years. 57% of them will have an I.Q. above 75. 43% of them will have an I.Q. below 75.

The figures above include all children with hydrocephalus. Part of them will have hydrocephalus associated with myelomeningocele (a cyst in the back with spinal cord or nerves; these children usually have paralysis of the legs, lack of control of the bowel and bladder, deformities in the legs; many of them develop meningitis, urinary infection); these children with myelomeningocele are usually severely handicapped, will require many operations, and a large percentage of them eill die with or without operations. Many will question whether one shouldprplong the life and the suffering of these children with myelomeningocele.

References

Foltz, E.L. and D.B. Shurtleff: Five-year comparative study of hydrocephalus in children with and without operation (113 cases). Journal of Neurosurgery 20:1064-1079, 1963.

Laurence, K.M., S. Coates: The natural history of hydrocephalus. Archives of Diseases of the Childhood 37:345-362, 1962.

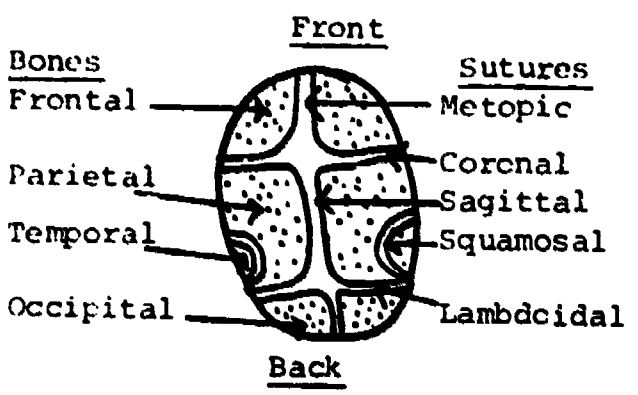
Shillito, J. Jr, R. G. Ojemann: Hydrocephalus. In J.R. Youmans (Ed.) Neurological Surgery, Vol. 1, pp. 559-587, Philadelphia-London-Toronto: W.B. Saunders Co., 1973

PART II: CRANIOSYNOSTOSIS ("skull" "constriction")

Anatomy

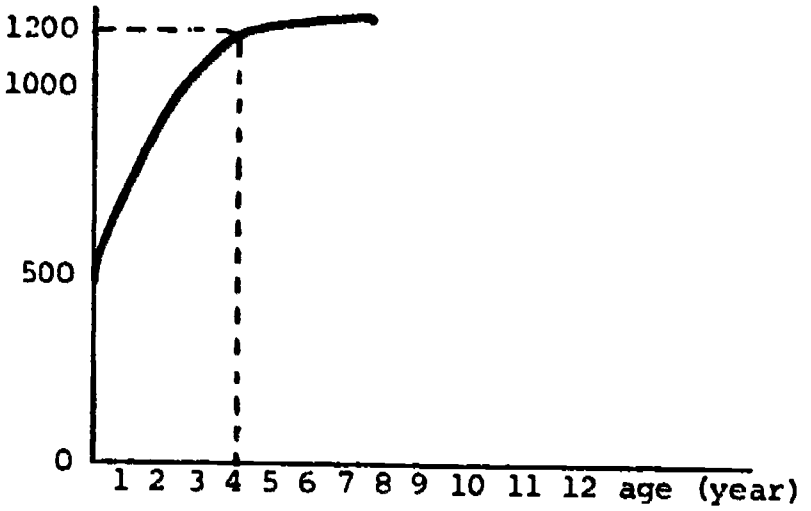
The skull of a newborn is made of several bones: right and left frontal bones, right and left parietal bones, right and left occipital bones (or one occipital bone), right and left temporal bones, and others. The spaces between them ar. called sutures, which receive a different name according to their location: sagittal (between 2 parietal bones),

meteric (between the 2 frontal bones), coronal (between the frontal and parietal bone on one side), lambdoidal (between the parietal and occipital bones), and squamosal (between the temporal bone and the parietal).



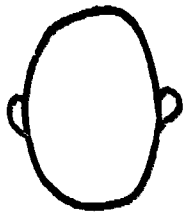
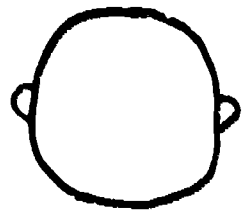
These bones grow by forming more bone in their edges, that is at the sutures. When the growth is completed, in the young adulthood, these bones will fuse to each other at the sutures. Before the fusion occurs, we say that the sutures are "open;" after the fusion occurs, the sutures are "closed."

The skull grows in response to the growth of the brain. Most of the brain growth, and consequently most of the skull growth, takes place during the first few years of life. At the age of four years, 88% of the weight of a 12 year old brain has been achieved.



Physiopathology

In craniosynostosis, a premature fusion of one or more sutures occurs, leading to a failure of bone growth at that suture(s). The cause for the premature fusion is unknown. In sagittal synostosis, fusion between the two parietal bones takes place somewhere along the sagittal suture. The two parietal bones will be fastened to each other at the site of the fusion, and growth of the parietal bones along the sagittal suture will stop. Eventually the entire sagittal suture will fuse, holding the two bones securely fastened to each other. Because the skull growth to the sides is restricted, it will grow to the front and to the back excessively, in order to compensate, and to make room available to the growing brain. The child will have an elongated and thin head. This is the commonest type of craniosynostosis.

Sagittal synostosis  Normal  Coronal synostosis 

The next most common form of craniosynostosis is the coronal craniosynostosis in which the coronal suture closes prematurely. The frontal bones will be fastened to the parietal bones, restricting the skull growth in the front and back directions. The child will have a short and wide head. The forehead will be flat.

There are other less common types of craniosynostosis that will not be discussed here.

Clinical picture

Besides the alteration in the shape of the head, one can usually feel a ridge in the affected suture.

Some children will have an elevation in the intracranial pressure because of the brain growth within the tight skull. These children may vomit and complain of headaches. Vision will be impaired in some of them.

Some other children will be mentally retarded, whether as a result of the inability of the brain to grow normally, or as a result of an independent associated brain disfunction.

A few children will have epilepsy.

Deformities may be present in the facial bones, finger bones, feet, etc. X-rays will show the suture fusion.

Treatment

This consists of removing the abnormal point of fusion, opening the suture again. When the sagittal suture is fused, some prefer to remove a strip of bone parallel to it, on each side, making two artificial sutures.

This operation is done for two reasons: 1) to correct the abnormally-looking head (cosmetic reason); and 2) to prevent brain damage.

Most neurosurgeons think that surgery should be performed within the first few months of life.

Because at the age of 12 years 88% of the weight of a 12 year old brain has been gained, little cosmetic improvement can be expected by operating after the age of 4 years.

Surgery in an infant is much simpler than an older child, because in the infant the bones are very thin and can even be cut with a pair of scissors. When two or more sutures are prematurely fused, the indication for surgery is based on both the cosmetic and the neurological reasons. When only one suture is involved, the cosmetic reason is present, but the neurological reason may not be present.

Incidence of Mental Retardation

A high incidence (40%) of mental retardation has been reported in children with craniosynostosis who were not operated upon. The incidence of mental retardation among children who were operated on before the age of one year has been much lower, (5%).

References

Anderson, E., Paranhos Gomes F.: Craniosynostosis. Acta Paediatrica Scandinavica 57:47-54, 1968.

Chillito, J Jr.: Craniosynostosis. In Youman (Ed.): Neurological Surgery, vol. 1 pp. 608-627, Philadelphia-London-Toronto: W.B. Saunders Co., 1973.

APPENDIX J

Lecture by Sharon Gittleson, April 4, 1974
University of Vermont

UNDERSTANDING THE MENTALLY RETARDED

Any understanding of the mentally retarded should include an understanding of the family and the community of which he is a part.

Attitudes toward the retarded changed radically in recent years. Even just prior to the last decade, mentally retarded were isolated in homes, institutionalized, or generally ignored. Families were ostracized and stigmatized and felt ashamed of their retarded children. Once the diagnosis of retardation was made, or even suspected, parents found little continuing support from professionals or the community. Many practitioners avoided telling the parents that their child was retarded because they feared the self-fulfilling prophecy of such a diagnostic label--namely institutionalization and/or withdrawal from society. It was once felt that retardation could not be affected by professional intervention--on any level; the diagnosis was only useful to determine a prognosis, but had little to do with planning for the child or his family, or preparing any treatment program.

With the advent of modern medicine, drugs, research and the advances genetics has made in the medical field, handicapped infants are surviving and living normal life spans. Social problems connected with this group are much more apparent. Gradually, then, the former stereotyped attitudes about "mental retardation" are changing. Parent groups have evolved as has legislation for education and vocational rehabilitation, and the growing realization that the mentally retarded individual is a human being to be treated with dignity and respect and one who should be accorded the right to actualize himself to his greatest potential.

We recognize, for instance, that the concept of retardation is not a one-dimensional situation--it is multifactorial. With the introduction of psychological tests, I.Q.'s in 1905 with Binet, non-verbal performance tests, an increase in medical knowledge of the organic aspects of retardation, and the chromosomal "syndromes" becoming apparent through the study of genetics, we see the need for differential ways of treating the retarded.

An automatic suggestion of institutionalization then for the retarded has been replaced with concerned parents and professionals interested in understanding the nature of the child's disorder, and in most cases with parents willing to keep their children at home. Only 4% of retarded children in this country are institutionalized.

There are an estimated 7 million people in the United States with visible defects resulting from genetic disorders. Over 400 human diseases have been identified that are associated with genetic defects. And chromosome aberrations alone account for an estimated 15,000 babies being born deformed, mentally retarded, or sexually abnormal each year.

The term RETARDED is no longer a STATIC one. There is a DYNAMIC concept of mental retardation evident today, one which has opened up possibilities for development and treatment of the retarded, and provides for a much greater understanding of the child by his family.

My job as social worker in a Genetic Counseling Service in a large community hospital, demands close work with the Genetic counselor in an over-all assessment of the parent's psychological and social situation, and translating their reactions to the birth of a defective child to the team. Not only is an assessment of the emotional components of the family unit and its individual members important in determining their ability to handle presenting and corresponding problems, but as a gauge to the over-all counseling process.

Genetic counseling is not simply a matter of presenting risk figures to the couple on their chances of another child being born to them with the same problem. Genetic counseling is also concerned, to a great extent, with the burden of the diagnosis on the family. This point is very important because studies have shown that the counseling is ineffective if the psychological and social components are disregarded, and the parents are presented with highly sophisticated genetic data alone.

The initial stage when the parent becomes aware of his child's problems is described as one of "shattered self adequacy." This is a "syndrome," as it's been related in the literature, reflecting a loss of self-esteem, and an insult to the ego structure, if we look at it in psychoanalytic terms. There is a feeling of shame and stigma with a strong tendency to hide knowledge of genetic defects, or abnormalities in a family. This has been seen as a reflection of the belief that hereditary fault belongs in

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the same category as a moral offense. Highly intelligent people often regress to immature levels of emotion and thought when confronted with genetic information.

Social workers on the genetic counseling team deal with the families who are reacting to stress and who are in crisis. We are concerned with their adaptive functioning and recognize that supplying the clients with genetic information alone meets only part of his needs. Because of their initial guilt and denial, much of this information is not heard, or if heard, not understood.

We're continually faced with the problem of how to help parents live with, rather than without their retarded children as previously. The diagnosis of retardation is difficult to accept and to deal with. In our culture, great emotional and material investments are made in preparation for the birth of a baby. The child often represents to the parent an extention of his self, or an affirmation of one's success. There are deep psychological ramifications present in the birth of a normal baby, but the birth of a congenitally defective child transforms a happy experience into one of catastrophe and profound psychological threat. The family finds itself in crisis, or disequilibrium.

The entire period of gestation in mothers is viewed as one of enhanced narcissism. There is a natural discharge of tension as the mother responds to her normal child and achieves emotional satisfaction in return by experiencing his expected maturational milestones. This is denied to the parent of a retarded child; we're becoming more aware of the impact on the father, too as his heightened emotionality is denied its normal release.

Parents experience grief, mourning, and the need to plan for the future simultaneously. This can be overwhelming in its impact.

There are three stages in the process of uncomplicated grief: First, shock and disbelief; secondly, a developing awareness of the loss which is characterized by feelings of sadness, guilt and helplessness, and third, a prolonged phase of recovery during which the mourning continues and the trauma of loss is overcome.

Our experience shows that the grief of parents of retarded children has an added dimension, "chronic sorrow," a term coined by Simon Olshansky. The parent experiences the loss of a wished-for or desired baby at the same time as he experiences the birth of the threatening child. There is no time for working through the loss of the desired child before demands are made on him to invest himself, emotionally, in the new handicapped child as a love object. Questions are asked: Why did this happen to me? What have I

done? Religious guilt emerges. If there are feelings of self-doubt and inadequacy, although perhaps previously worked out, they may recur as the damaged child is now viewed as an extension of self.

Olshansky believes that "chronic sorrow" best describes the continuing feelings of most parents and that they never actually recover from their sense of "sorrow" over the birth of a defective child. A mistake in counseling has been for professionals to view this manifestation as neurotic, rather than accepting these feelings as a natural and understandable response to a tragic fact.

Once the helping person changes his perceptions of the parents' sense of "chronic sorrow", the family will feel freer to more openly discuss their sense of mourning, grief and doubts. The professional person who learns to accept "chronic sorrow" as a normal, psychological reaction will be able to grant the parent a longer, more acceptable period of time in which to adjust his initial feelings, organize his resources, both internal (psychologically) and external--social environment, family, siblings, husband, wife, etc. In this way, parents are enabled to increase their ability to live with and manage their child.

Parents also need support for the legitimacy of their feelings. They should not feel they are psychiatric cases or neurotic because of their "grief" over the loss of the normal child. Marital disruption can often occur if the child is viewed as a symbol of underlying failure in marriage.

We've heard parents express conscious or unconscious death wishes to the child which intensifies their anxiety. Ambivalent reactions include rejection/hope; dejection/doubt; disappointment/anger; guilt coupled with overprotectiveness--but none of these attitudes should be regarded as pathological reactions. Rather, sorrow and a sense of crisis are natural responses to tragedy.

The initial transmission of information is crucial. If done honestly and realistically, the counseling can help establish a framework for the family to engage the healthier parts of their personalities in the early stages of crisis response. A chief element for the social worker is to individualize the meaning of the genetic information for the family and to make possible an ease of communication so that their fears, hopes and expectations can be expressed and understood and they are better able to hear and comprehend the technical counseling.

An extremely important job for the counselor is to accept parents' feelings of denial, isolation, and projection,

but at the same time holding them to reality so that some controls can be established and the best decisions made for the child and themselves. It would not be normal for the parent to easily and quickly accept the painful reality of the handicap. He should be helped to understand what is normal in the situation and enabled to gain proper perspective. He should be reassured about the threatening aspects in his own feelings and reactions and be helped with his shaken self-esteem so that he can make appropriate judgments and decisions.

Parents are better helped to mobilize their energies when they are able to realize that their retarded child has many normal needs for security, affection, stimulation and abilities to live with others.

Counselors need to focus on enabling the parent to perform successfully in his parental role at this time. If a sense of parental responsibility can be achieved and shared with the spouse, there is more apt to be an earlier transition from the first stage of denial and withdrawal and grief where he is engulfed in self-pity and dejection, to the second phase of parental responsibility and seeing the child as an individual. He then can begin to look rationally and objectively at the problem and seek clarification of his child's limitations.

Ultimately, parents can be helped to change their orientation from themselves, their feelings, to their child, and eventually to groups and programs in the community which provide a broader perspective and include an interest in associations for their particular child's disability (e.g., ARC, Hemophiliac group, special education schools, day care centers.)

Social workers and others have an important function in giving support to parents of the retarded as they struggle through the "normal" problems of accepting and living with the diagnosis. This support is not just one of empathy, but is consciously focused on helping the parents to perform successfully in their parental role, to assume normal parental responsibility, to give his child care and love, and to experience successful achievement in the process, in both the home and community.

Counseling should be clear, informative and reassuring, and provide adequate information regarding prognosis and management of the child within realistic limitations. Literature and access to community organizations should be provided with the goal being integration of parents into the wider community aspects of the problem of mental deficiency.

APPENDIX K

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CAREER EDUCATION

FOR

THE HANDICAPPED

A Learning Activity Package for Preservice and Inservice Vocational and Practical Arts Educators

APPENDIX K

Foreword:

Attitudes toward the mentally retarded have changed through history from rejection and elimination to acceptance and integration. Education programs for the retarded have followed a similar pattern. Originally programs for the mentally handicapped were available only in segregated and sheltered environments. Today, however, students with retarded mental development are integrated into many mainstream education programs.

As programs open or expand, more and more teachers will become involved in teaching the mentally handicapped. Extending a career oriented education to this special population will involve numerous vocational and practical arts teachers and administrators in preparation as well as in participation. The intent of this activity package, the first in a series of such packages, is to direct pre-service and in-service teachers to information which will aid them in preparing to teach the mentally retarded.

The format for each package is the same. Only the content varies. Each activity package consists of (1) subject identification, (2) a statement of concepts to be learned, (3) learning objectives, (4) a pre-test, (5) prescribed learning activities, and (6) an achievement assessment.

Learning Activity Packages are not a substitute for such traditional learning experiences as lectures, readings, discussions, or practicum experiences. Even so, they can be utilized to direct the participant to viable learning experience, including the more traditional ones. Our intention is to use this series of Learning Packages as an alternative to the typical structure, location, and operation

of university courses. Hopefully this practice will allow busy people to pace their rate of learning new information to the demands of their many other commitments and will also allow teachers otherwise separated from university courses by geographic barriers to learn something about this topic of general importance.

The subjects included in this series of learning activity packages are diagrammed on the next page. The objectives for subjects enclosed is solid rectangles must be completed if the series is being taken for university credit. Those enclosed in broken rectangles are optional; they provide the nice-to-know rather than need-to-know kinds of information.

MODULE FIVE

SPECIFYING VOCATIONAL GOALS AND OBJECTIVES FOR PUPILS WITH LEARNING HANDICAPS

SUBJECT — Specifying vocational goals and objectives for pupils with learning handicaps

CONCEPT — Selecting and directing daily learning activities calls for instructional goals and objectives. Without goals and objectives teaching is simply an exercise in keeping students busy, off the street, and out of the principal's office, with little concern for "how" or "why."

A teacher's perception of what ought to be covered in his courses and his approach to selecting learning activities greatly influences his success as a teacher of students with learning handicaps. For this reason, Module Five provides information relevant to specifying vocational goals and objectives for secondary students in special education programs.

OBJECTIVES

I. Selecting Appropriate Instructional Goals

After completing prescribed learning activities you will be able to list five sources from which goals for the education of the mentally handicapped can be developed. Your list must be substantiated by an authority in the field of mental retardation.

II. Job Analysis Techniques for Content Selection

After completing prescribed learning activities you will be able to:

A. State what a job analysis is and how job analyses assist in developing vocational training programs. Your statement is acceptable when you cite three examples, items, or arguments from current literature.

B. Visit a job station in a selected occupation and complete a job analysis of the skills and related information needed to perform the job. Your analysis is acceptable when all information in a Diversified Occupations job analysis form is provided.

C. Validate the skills and related information developed from the job analysis by using industrial management, apprentice directors, union representatives, or other competent persons. Your validation is acceptable when one of these persons is in agreement with your analysis.

III. Task Analysis Technique for Course Construction

After completing prescribed learning activities you will be able to:

A. State how task analysis procedures can help teachers avoid such pitfalls as:

1. Spending a lot of time teaching difficult but unimportant topics.

2. Forgetting to include topics that are easy but essential to learn.

3. Including too much theory and not enough practice.

Your statements will agree with the arguments of Mager and Beach in Developing Vocational Programs.

B. Use Mager and Beach's task listing sheets to analyze the tasks for a selected job to satisfaction of instructor.

C. Use Mager and Beach's task detailing sheet to analyze the elements of a selected job task to satisfaction of instructor.

D. Sequence a series of tasks performed by a gas station attendant from simple to complex to satisfaction of instructor.

IV. Writing Performance Objectives

After completing prescribed learning activities you will be able to:

A. Write performance objectives in each of the domains of vocational behavior (cognitive, affective, and psychomotor) according to criteria established by Mager in Preparing Instructional Objectives.

V. Analyzing Courses into Units and Lessons

After completing prescribed learning activities you will be able to:

A. Identify the unit topics for a course.

B. Determine objectives for a unit.

C. Write content outline for a unit of instruction.

D. Determine number of lessons needed to cover a unit.

E. Develop a lesson plan which provides and identifies specific outcomes, designates methods and media, provides for evaluation, and provides for alternative modes for repetition of content. All behaviors will be performed to satisfaction of instructor.

PRE-TEST Answer as many questions on the pre-test as you can before completing prescribed learning activities.

PRE-TEST

1. State what a job analysis is and its uses.

2. Is there anything to be gained by giving objectives to the student? (explain your answer)

3. Describe how you could determine which of your course objectives a child with learning handicaps could meet.

4. Instructional Goal: The student will know how to locate employment. Write four objectives for the goal described above.

5. State how analysis procedures aid in course construction.

6. Break the job of "housewife" into at least 10 tasks.

7. Write three performznce objectives for the course you presently instruct.

8. What are the three main sections of a complete occupational analysis?

   a. written job description, listing of tasks in the job, teaching objectives
   b. written job description, listing of tasks in the job, detailing of steps in the tasks
   c. title of occupation, detailing of tasks in performing the job, job description
   d. conditions of work, skills required on the job, tasks performed on the job
   e. written job description, listing of tasks in the job, listing the conditions of work

9. Label the following statements.

   C = cognitive objective A = affective objective E = educational goal

   ____A. The student will write an essay describing the major effects of Reconstruction on the Southern economy.

   ____B. The student will voluntarily read ten books on political theory for "outside reading."

   ____C. The student will conjugate the verb "aller" (to go) in the conditional tense.

   ____D. The student will know the main principles of instructional technology.

   ____E. The student will express his feelings about the role of the "New Left: in American politics.

   ____F. The student will understand the basic rules of the English language.

   ____G. The student will list the five parts of speech.

   ____H. The student will show his enthusiasm for Beethoven's Fifth Symphony.

10. In what way are objectives valuable for the teacher?

11. List the procedures for conducting a job analysis study.

12. Select the statement that best describes the difference between educational goals and behavioral objectives.

_____A. Educational goals are stated in general terms; whereas, behavioral objectives are stated in specific terms.

_____B. Educational goals are stated more precisely than behavioral objectives.

13. Present evidence that you have conducted a job analysis study of an establishment in the vicinity where you work.

14. A critical first step to take when accumulating job analysis information is to:

a. identify the correct man in industry to give the information
b. develop a good data gathering instrument
c. obtain permission for conducting an analysis
d. learn job analysis techniques
e. identify representative jobs to be analyzed

15. Match the following:

__A. An instructional objective describes: 1) internal behavior

__B. An affective goal is concerned with: 2) visible performance

16. We write behavioral objectives in order to:

_____A. Specify behavior in terms of teacher performance.

_____B. Specify behavior in terms of student performance.

17. The broad educational goals for Diversified Occupations students should be derived from:

a. Diversified Occupations advisory council
b. State Department of Education curriculum guide
c. expectations of employers
d. demands of society
e. needs of the individual

18. Select one task listed in example 6 and complete a task detailing exercise according to Mager's criteria.

LEARNING ACTIVITIES

SPECIFYING VOCATIONAL OBJECTIVES FOR THE HANDICAPPED

Almost daily teachers decide what skills their students will or will not learn. Hopefully these decisions rest on an earnest desire to meet the needs of each student. Even when goals and objectives have been carefully prescribed numerous interruptions will necessitate their revision and modification. In addition, instruction is always vulnerable to the constraints imposed by time, teaching resources, one's knowledge of subject matter and the ability of others to grasp what is being taught.

Fortunately, vocational teachers have a ready and valid source from which to derive their instructional goals and objectives. The skills, attitudes, and knowledges needed in the world of work constitute an excellent and reliable source from which to derive classroom goals and objectives. When vocational objectives for the handicapped are being determined one must match job demands with individual interests and abilities. For this reason, individually prescribed instruction is needed for every handicapped pupil enrolled in vocational training programs. This should not make teachers reluctant to accept handicapped students into their programs, however.

In any vocational field there are highly skilled, semi-skilled and unskilled job stations. Traditionally, the quest of public supported vocational training programs has only been to prepare personnel for the skilled and highly skilled job slots. Yet, the majority of our nation's work force perform semi-skilled or relatively non-technical labor. As taxpayers, we should consider training students with limited ability to the level of semi-skilled laborers as legitimate and important

as training students with unlimited ability to the level of highly skilled laborers and technicians. If this sounds like a proposal to offer training programs at several levels, it isn't.

If all jobs that make up a trade are carefully analyzed, it will be revealed that the skills needed to perform in unskilled or semi-skilled job slots are usually needed by those performing at higher levels of employment. Also, it will be noted that some tasks must be performed by many workers while others are performed by only a few. This implies that people training for a variety of job stations could begin their training together but exit at different points in their training. Such is the case with training mentally handicapped students who are in regular vocational classes. They benefit from the same training everyone else receives initially; they simply exit sooner if necessary. Most educables, we find, perform nearly as well as other vocational students unless higher than 5th grade reading is required or the training involves making judgements, predictions, and conclusions based on data which can only be communicated verbally.

To illustrate a plan for integrating the handicapped, consider the automotive training program found in most Area Vocational Centers. This is a vocational field with job slots for the highly trained as well as the hardly trained. And, invariably, what the gas station attendant must know the transmission specialist should know. Therefore, they can be trained in the same vocational program. One may exit for a work study placement while the other continues to more advanced training.

Assume that:

A -- Gas Station Attendant

B -- Auto Mechanics Helper

C -- Auto Mechanics Apprentice

D -- Automotive Systems Specialist

Designate what tasks employees at each job level would need to perform by placing the appropriate letter beside each task. Also place a large capital letter at the point on the task analysis where trainees at each job level would exit the training program.

The student will:

_____ 1. Observe and practice shop safety.

_____ 2. Observe and practice fire safety.

_____ 3. Identify and use basic mechanic's hand tools.

_____ 4. Identify and select automotive hardware.

_____ 5. Use automotive terminology.

_____ 6. Identify customer needs.

_____ 7. Clean service area and equipment.

_____ 8. Raise cars with floor jacks and combination bumper-frame jacks.

_____ 9. Raise cars with twin-post hydraulic lift.

_____10. Identify and replace defective drive belts.

_____11. Inspect vehicle lighting circuit.

_____12. Service minature bulbs and sockets.

_____13. Remove and replace headlamps.

_____14. Identify common spark plug deposits.

_____15. Clean, gap and test spark plugs.

_____16. Remove and replace spark plugs.

_____17. Test and adjust tire pressure.

_____18. Remove and rotate wheels.

_____19. Inspect tires and identify common defects and wear.

_____20. Mount and demount tubeless and tube-type tires on tire machine.

_____21. Repair tubeless and tube-type tires.

_____22. Wash and polish vehicles.

_____23. Test battery with battery hydrometer.

_____24. Inspect batteries and perform minor repairs.

(ITEMS #25-67 OMITTED FOR THIS PUBLICATION)

_____68. Adjust carburetor idle air/fuel ratio mixture using a vacuum gauge and tachometer.

_____69. Adjust the valve on an engine with the engine not running.

_____70. Adjust the valve lash on an engine with mechanical lifters with the engine running.

_____71. Adjust the valves on an engine with hydraulic lifters with the engine running.

_____72. Use a dial indicator and measure the valve lift of an engine.

_____73. Disassemble a cylinder head and inspect for cracks and condition of valves.

_____74. Degrease cylinder head and valve components. Remove carbon from valves using a wire buffing wheel.

_____75. Grind the valve facer and stems using a valve refacer.

_____76. Reface the valve seats using a valve seat refacing machine.

_____77. Test valve spring tension using a spring tester.

_____78. Reassemble valve components in cylinder heads. Measure valve spring installed height. Correct if necessary.

_____79. Remove and replace a cylinder head on an engine. Perform all necessary adjustments.

If students were expected to learn all of the skills listed in the auto trades breakdown there would be no chance for students with learning handicaps to succeed. They could succeed, however, if the amount of learning tasks were adjusted to their individual abilities. Furthermore, they would be prepared for gainful employment which, after all, is the goal of vocational training.

The point that we have been making is this. Students with learning handicaps can succeed in regular vocational training programs provided the instructor prescribes realistic goals and objectives. Of course, a successful learning experience involves more than specifying proper goals and objectives. The instructional process also determines if those goals will be achieved as we'll indicate in another module.

The remaining learning activities focus on important concepts in specifying goals and objectives for the handicapped.

NOTE: All instructional materials are filed in the Resource Box under Module Five.

LEARNING ACTIVITIES

I. Selecting Appropriate Instructional Goals

A. Read Godfrey D. Steven's article "An Analysis of the Objectives for the Education of Children with Retarded Mental Development," American Journal of Mental Deficiency, February, 1958.

B. Read Richard Hungerford's article, "The Schooling of the Mentally Retarded -- A History and Philosophy of Occupational Education."

II. Job Analysis Techniques

A. Read the following articles. The use of job analysis in developing a vocational training program is illustrated in several of the articles. Take notes to which you can refer when completing activity B.

1. From Handbook for Analyzing Jobs (U.S. Department of Labor) read:

a. page 1 "Job Analysis: What It Is and Its Uses"
b. pages 3-10 "Concepts and Principles in Job Analysis"
c. pages 11-14 "Procedures for Conducting a Job Analysis Study in an Establishment."

2. From Analysis Technique for Instructors read pages 70-119, V. Fryland, Bruce Publishing Co., Milwaukee.

3. Read "Steps in Course Construction" pages 18-26 and "Analyses as Procedural Techniques" pages 109-118, from Course Making in Industrial Education, J. Friese, C. A. Bennett Publishing, Illinois.

4. Read "Process and Techniques of Vocational Curriculum Development," positionpaper by Jerome Moss, Jr. and Brandon B. Smith.

B. Select a job station at a local establishment and conduct a job analysis of skills and related information. Use the Diversified Occupations job analysis form for gathering the related information and a task listing sheet for listing the performance skills. Read Chapter 3, "Task Analysis" in Mager and Beach's Developing Vocational Instruction before conducting the analysis.

C. Find someone in management or in a training capacity to validate the tasks and related information you obtained in activity II-B.

III. Task Analysis Technique

A. Read Chapter 3, "Task Analysis," in Developing Vocational Instruction by Mager and Beach. Write out Mager's explanation for how task analysis can help tachers avoid:

1. Spending a lot of time teaching unimportant topics.

2. Forgetting to teach important topics.

3. Teaching too much theory and too few practical skills.

B. Using the list of tasks developed for II-B (job analysis of skills and related information), select and analyze a task using Mager's Task Detailing Sheet and criteria for analysis.

C. Refer to a task listing of skills and job performarce for a gas station attendant, sequence the tasks from simple to complex. (Number the skills as they appear on the task analysis sheet and then simply write the numbers in order from simple to complex.) Now list them from safe to hazardous. Now list in a chronological sequence, i.e. what is done first through what is done last. What sequence should be used for training pruposes? Read the COTEC mimeo's "Taxonomy of Image Provoking Behavior" and "A Smattering of Learning Theory."

IV. Writing Performance Objectives

A. Read the monograph "Writing Instructional Objectives" by Dr. Wayne Fox (UVM).

B. View the following filmstrips and cassettes by James Popham:

1. Educational Objectives #1 VIMCET
2. Selecting Appropriate Educational Objectives #3 VIMCET
3. Establishing Performance Standards #4 VIMCET
4. Identifying Affective Objectives #10 VIMCET
5. Defining Content for Objectives #9 VIMCET

C. Select a job task from II-B (job analysis) and write a training objective for it. Use the "Fox Box" format.

V. Analyzing Courses into Units and Lessons

A. Choose one of your courses and analyze it into unit topics. If you need assistance consult a curriculum guide or textbook.

APPENDIX L

MAKING YOUR OWN SILK SCREEN

Prepared by:
Harold Moulton

CONTENTS

RATIONALE

You can learn much and have fun making your own silk screen. You can't always find or buy a silk screen the right size to print the size poster or Christmas card you want. Sometimes the cost is too great when added to the cost of supplies you need to do a print job.

It is also a good chance for you to gain skill in the use of many hand and power tools. There are many different operations that need to be done with different tools. You will learn how to make certain wood joints as well as learning how to attach hinges and stretch silk over the frame.

The experience you gain will help you to do other jobs better and easier.

PRIMARY IDEA

To learn to make your own silk screen

SECONDARY IDEA

1. How to make a cross lap joint
2. How to attach and stretch the cloth screen to the frame
3. How to attach loose pin butt hinges

REQUIRED ACTIVITIES

1. Observe the instructor as he show you "how to do"
2 Read and study the information given in this LAP

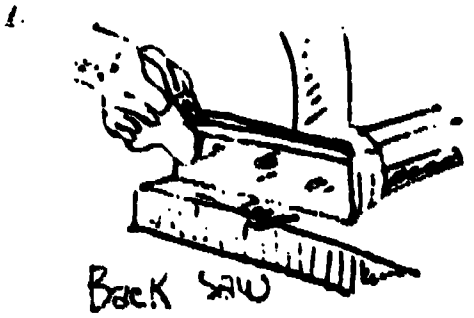
INFORMATION SHEET #1

Making your own equipment

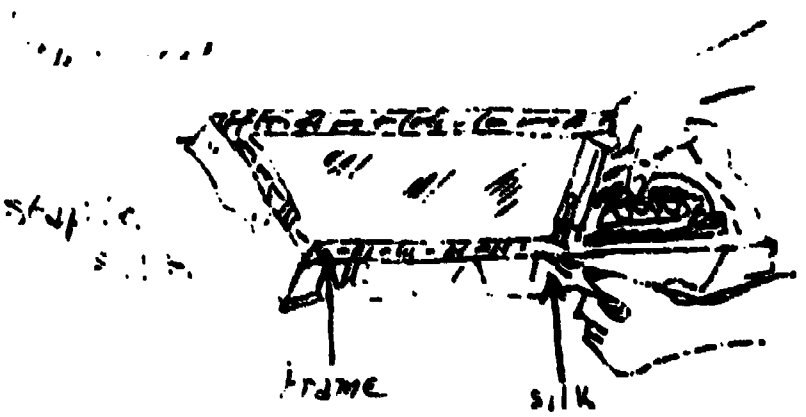
These directions can be used to build a silk screen of any size. We are going to make one that is 12 inches wide and 18 inches long. Because this is a fairly large frame, we will need to make the frame pieces larger than we would have to for a smaller frame. The two side pieces will be 1 1/4" x 1 1/4" x 20 1/2" and the two end pieces will be 1 1/4" x 1 1/4" x 14 1/2". Remember the larger the frame the larger the pieces need to be.

Tools and Materials Needed:

1. Lumber
   a. Frame- white pine- 2 pieces 1 1/4" x 1 1/4" x 20 1/2"
      2 pieces 1 1/4" x 1 1/4" x 14 1/2"
   b. Back bar- white pine- 1 piece 1 1/4" x 1 1/4" x 14 1/2"
   c. Leg stand- pine 3/8" x 1 1/4" x 10"
   d. Base- 1/2" x 18" x 24" Fir plywood
2. Back Saw- to cut the joints



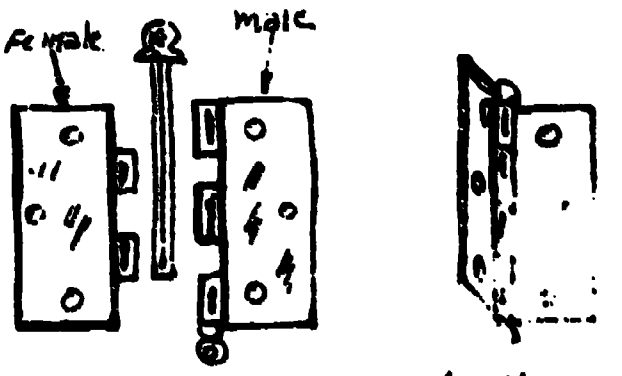
3. Stapling Gun or Carpet Tacks- If you use tacks, get either copper or aluminum size A. They will not rust like steel tacks will



4. Hammer- 13 oz. curved claw
5. Screwdriver- straight blade to fit hinge screws

INFORMATION SHEET #2

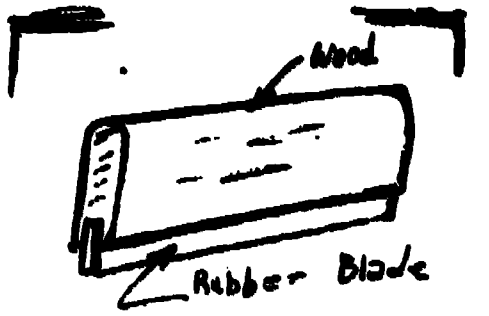
6. Loose Pin Butt Hinges- one pair each frame



Loose Pin Butt Hinge

7. Silk Screen Cloth- 1 yard, No. 12XX

8. Squeegee- a rubber blade inserted in a wooden handle



Squeegee

9. Shellac- 1 pint, white, to seal taped edges and screen frame

10. Paint Brush- 1/2" or 1" size will do, to spread shellac

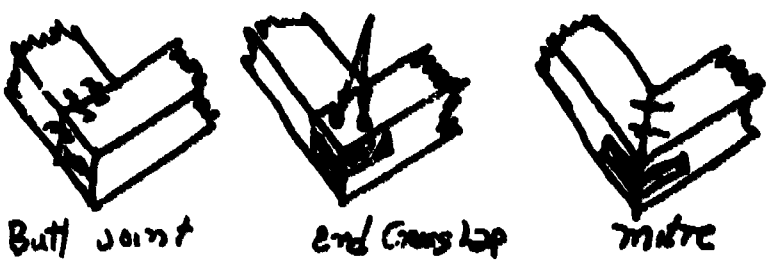
11. Glue- Elmer's Glue All

12. Gummed Tape- to seal edges of screen and frame

INFORMATION SHEET #3

How To Make The Frame

The frame needs to be rigid and strong to hold the tightly stretched screen cloth and the paint that will be forced through it. For this reason we are going to make a cross lap joint at the corners of the frame. This joint is good for this kind of job.



Procedure:

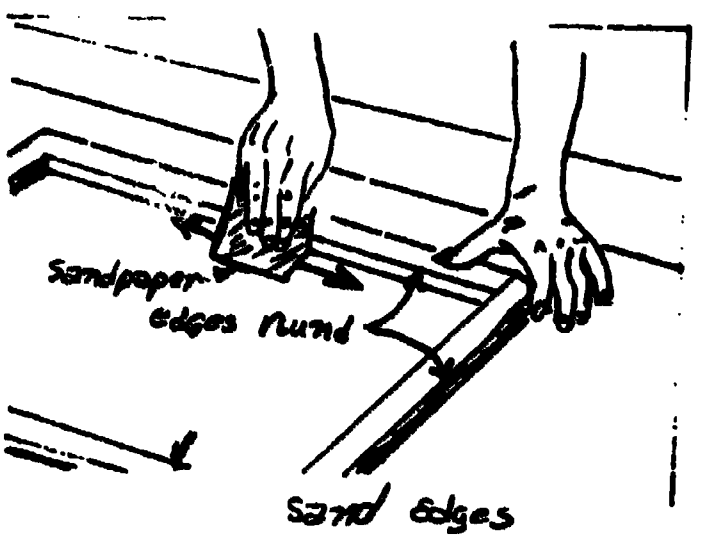
Step 1. Measure, mark and cut 2 pieces 1 1/4" x 1 1/4 " x 20 1/2"

Step 2. Measure, mark and cut 2 pieces 1 1/4" x 1 1/4" x 14 1/2"

Step 3. Lay-out, mark and cut cross lap joints on the ends of the 4 frame pieces.

Step 4. Put the frame together- fasten the joints with glue and screws CAUTION: Be sure joints fit before you apply glue.

Step 5. Sand the entire frame. Be sure the edges are smooth and slightly rounded so the silk will not tear when it is stretched.

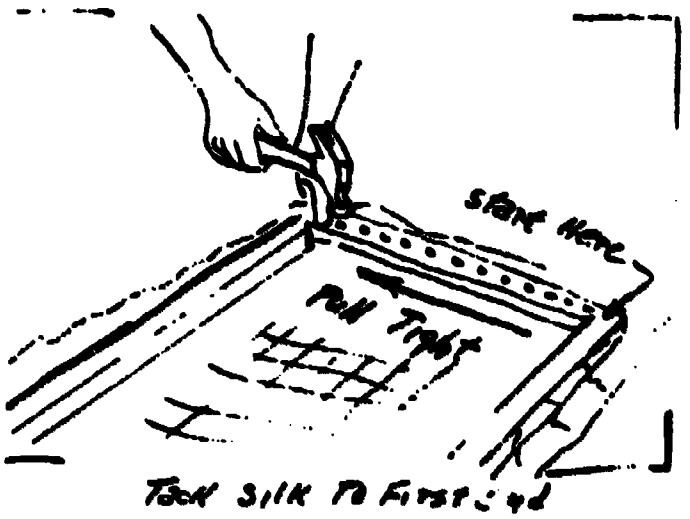


INFORMATION SHEET #4

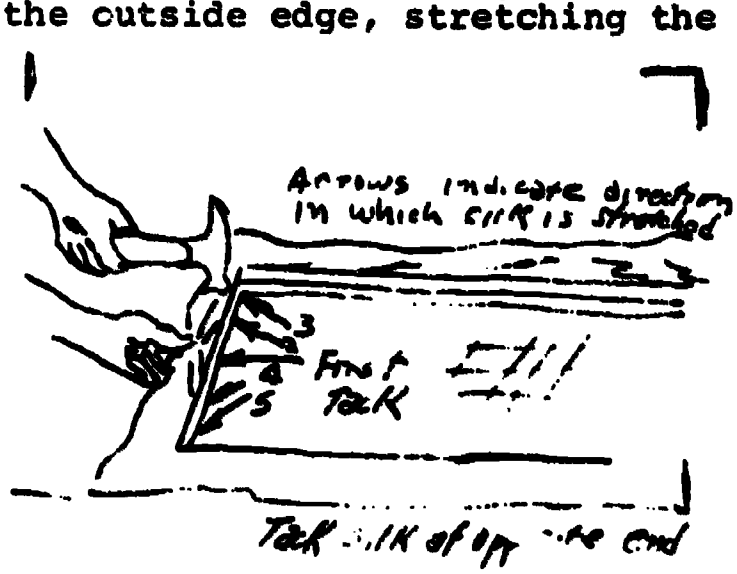
How To Attach Silk To The Frame

Step 1. Cut a piece of silk 2 inches longer and 2 inches wider than your frame. You need the extra amount to hold onto when you pull the silk to stretch it.

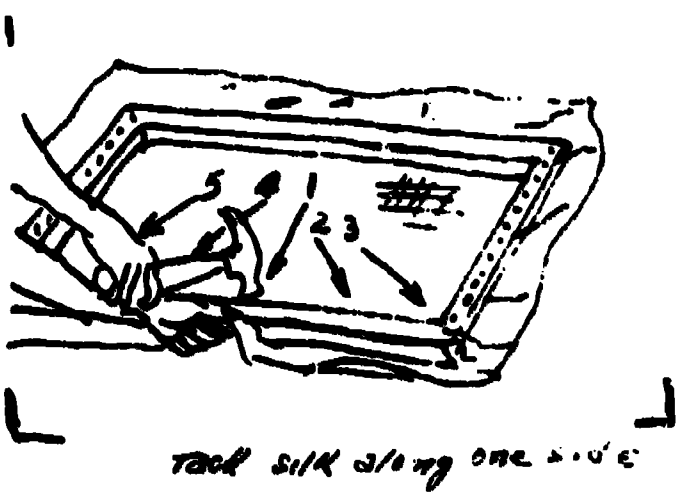
Step 2. Staple or tack the sheet of silk at one corner of the frame. Stretch the cloth along one of the short sides of the frame and staple or tack.



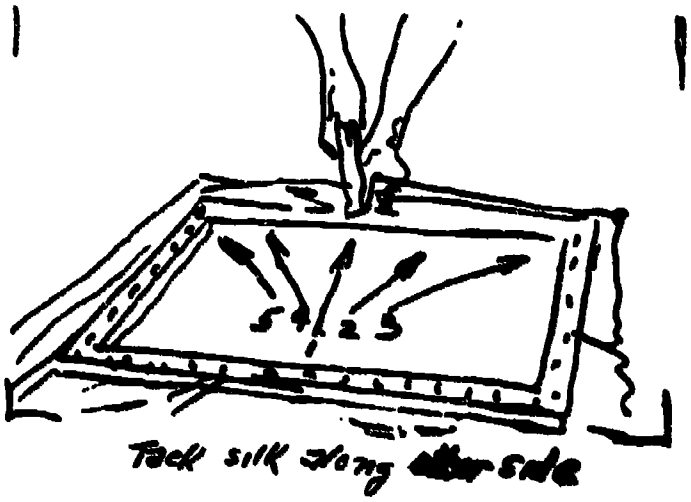
Step 3. At the opposite end, of the side you have tacked, pull the silk tight in the center and staple or tack. Work from the center to the outside edge, stretching the silk and stapling as you go.



Step 4. Staple or tack the silk along one of the long sides of the frame. Staple or tack the silk in the center and then stretch the cloth and staple as you work to the ends of the frame.

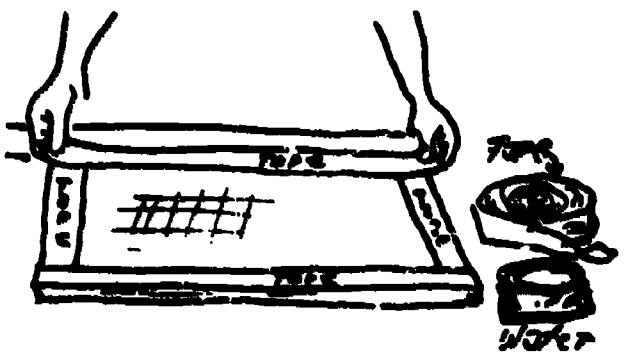


Step 5. Staple or tack the second long side using the method of stretching and tacking as you did in steps 3 & 4. The silk must be stretched tight and be free of wrinkles.



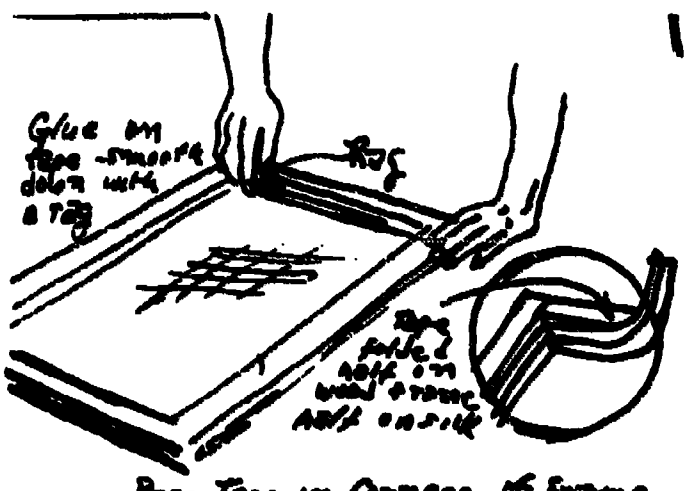
Step 6. Trim excess silk from edges. Use a single edge razor blade.

Step 7. Apply gummed tape to the tacked edges. The tape wants to extend beyond the edge of the frame and out onto the silk 1/2 inch.



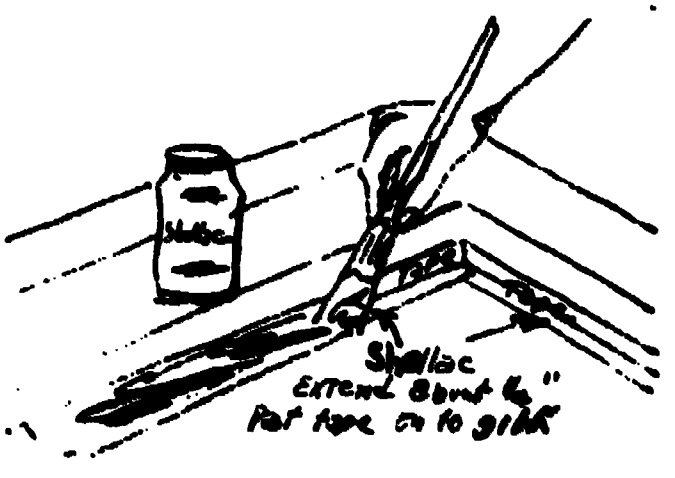
Cover edge of silk with Gummed Tape

Step 8. Turn the frame over, basin side up. Cut 4 strips of tape to fit inside the frame along each side- fold the strips lengthwise, 1/2" from one edge. (You need 2 strips, 12" long and 2 strips 18" long) Apply tape to the inside surfaces of the frame pieces and onto the screen 1/2 inch.



Place Tape in Corners of Frame

Step 9. Apply shellac to all taped areas.



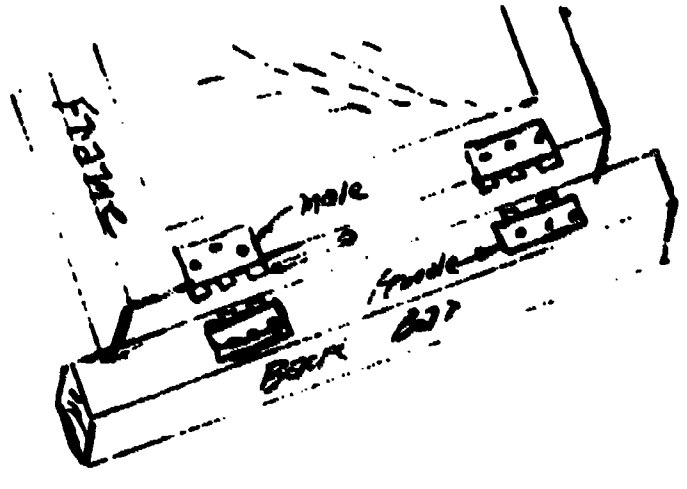
INFORMATION SHEET #6

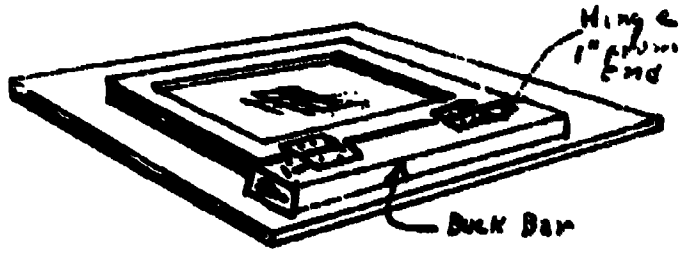
How To Attach Frame To The Base

Step 1. Measure and mark and cut a piece of stock 1 1/4" x 1 1/4" x 14 1/2 " for use as a back bar.

Step 2. Measure and mark and cut a piece of fir plywood- exterior grade- 1/2" x 18" x 24" for the base.

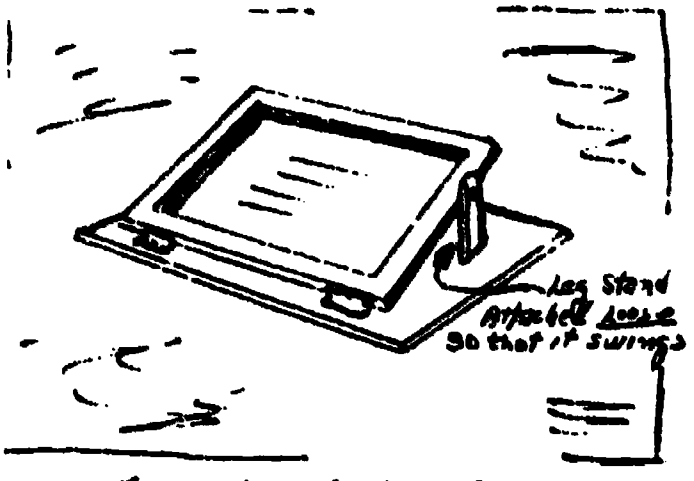
Step 3. Locate and attach hinges to the frame and back bar. Locate hinges in 1 inch from the ends of the back bar. The male half of the hinge is attached to the frame- check fig. 3. The hinge bolt must be on the back bar side of the joint.





Frame Hinged to Back Bar

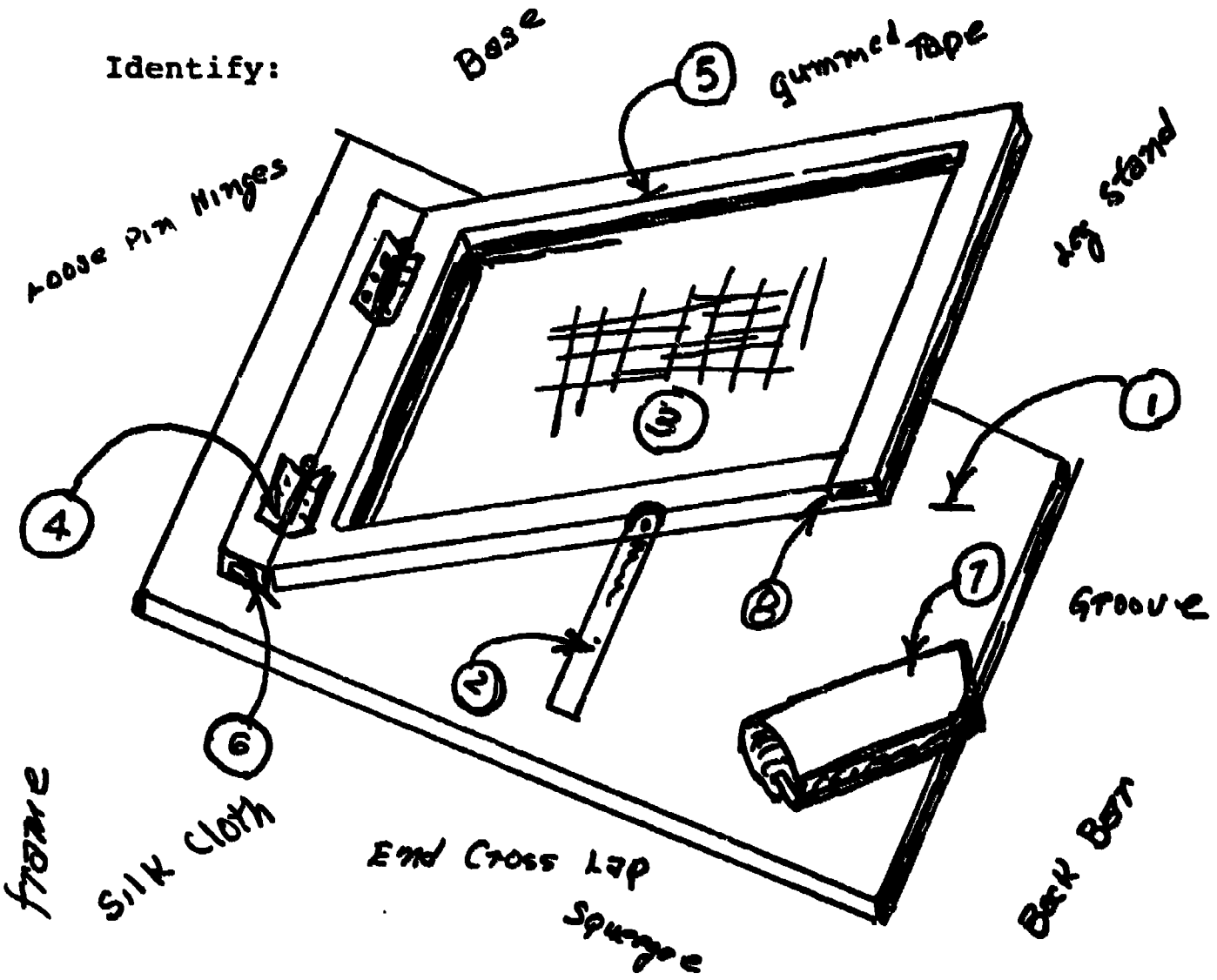
Step 4. Measure and mark and cut 1 piece 3/8" x 1 1/4" x 10" pine for leg stand. Cut one end on 10 deg. angle. The opposite end- bore a hole 3/16" dia. in the center of the piece in 5/8" from the end. Attach the leg stand with #8-1 1/4" round head screw. The leg must be able to swing free so it will drop in place when frame is lifted.



Pattern Leg Stand in Place.

PRE-TEST

Identify:



1. _____

2. _____

3. _____

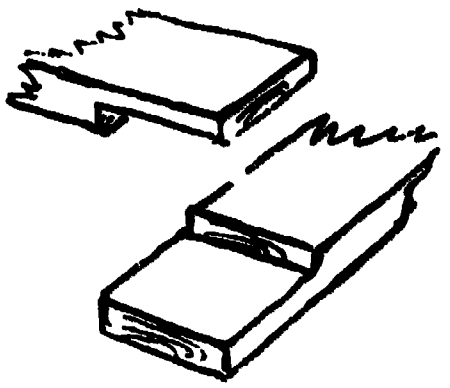
4. _____

5. _____

6. _____

7. _____

8. _____

1. 

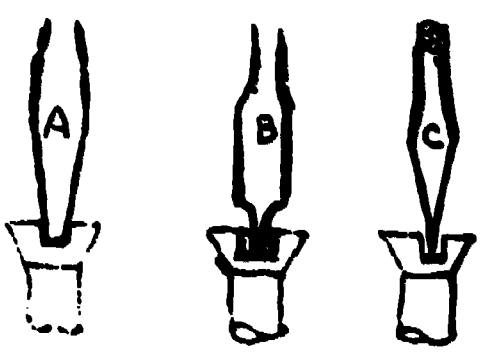
This joint is called: a. rabbet
b. dado
c. cross lap

answer_____

2. The handsaw used to cut a cross lap joint is

a. back saw
b. coping saw
c. crosscut

answer_____

3. 

Which screw has the proper fitted screwdriver?

answer_____

A B C

4. The block plane is used to plane

a. surface grain
b. end grain
c. edge grain

answer _____

5. Copper tacks are better than steel tacks on silk screens because

a. won't rust
b. sharper points
c. easier to drive

answer_____

6. Loose pin butt hinges are used because they

a. are easier to put on
b. look better
c. make removal of frame from base easier

answer_____

7. The end lap joint is used because

a. it is the easiest joint to make
b. it makes the frame strong and rigid
c. it takes less stock to make

answer_____

8. If the frame is not sanded before the silk cloth is attached, which of the following will happen?

a. nothing
b. you won't be able to staple the silk tight
c. the silk will rip when it is stretched

answer_____

9. The tacked edges of the frame are taped to

a. make a better looking job
b. to hold the silk in place
c. to protect the tacked edges of the silk

answer_____

10. A squeegee is used to

a. open ink cans
b. force paint through the screen
c. cover ink cans

answer_____

11. The taped edges of the frame are shellaced to

a. seal them
b. hold the tape in place
c. prevent paint from sticking to them

answer_____

12. In your own words tell how you should attach the silk cloth to the frame?

answer_____

_____

BEST COPY AVAILABLE

APPENDIX M

RECOMMENDED UNDERGRADUATE PROFESSIONAL PROGRAM OF STUDY

Teaching Field Specialization

Year in College	Occupational Education Program: Diversified Occupations	Occupational Education Program: Other	Other Education Programs: Diversified Occupations	Other Education Programs: Other
Freshman	VOTC 106 Understanding the Mentally Retarded (3)-- Field Trips		same	same
Sophomore	VOTC 152 Introduction to Career Oriented Education (3)-- Field Trips	same	same	same
	Ed. 15 Participation (2) --on-site observation/ participation	same		
	Ed. 145-146 Learning and Human Development (3/3) or H.Ec. 62 Adolescent Psychology (3)	same		
Junior	VOTC 156 Developing Instructional Materials for Teaching (3)		same	
	VOTC 197 Special Problems: Diversified Occupations (1-3)		same	
	VOTC 295 Special Topics: Career Education for Mentally Retarded (1-3)		same	same
Senior	VOTC 251 Methods for Teaching Occupationally Oriented Education (3) --Micro-Teaching	same		
	VOTC 155 Teaching Practicum (8) --on-site supervised teaching	same		
	VOTC 262 Seminar (1)	same		
	Ed. 190 History of Educational Thought (3) or substitute	same		
Certification	Diversified Occupations and Teaching Field	Teaching Field	Diversified Occupations and Teaching Field	Teaching Field

APPENDIX N

RECOMMENDED GRADUATE PROFESSIONAL PROGRAM (M.Ed)
DIVERSIFIED OCCUPATIONS FIELD OF SPECIALIZATION

Requirements	Type of Undergraduate Preparation		
	undergraduate specialty vocational education or practical arts education	undergraduate specialty elementary-secondary education	undergraduate specialty Diversified Occupations
6 hours in humanistic areas of Education from courses listed	Ed. 202 Philosophy of Education (3) Ed. 204 History of European Education (3) Ed. 205 History of American Education (3) Ed. 206 Comparative Education (3) Ed. 254 Anthropology of Education (3) Ed. 255 The School as a Social Institution (3)		
6 hours vocational education	VOTEX Ed. 295 Special Topics: Cooperative Work-Education (3) VOTEX Ed. 250 Voc. Educ. Methods for Teaching The EMF Pupil 1/ VOTEX Ed. 241 (proposed title)	2/VOTEX Ed. 241 Voc. Educ. for Pupils with Handicapping Conditions (3) (proposed title)	1/ VOTEX Ed. 241 VOTEX Ed. 250
3 hours research methods	Ed. 399 Research Methods on Education (3) Ag. Econ. 351 Research Methods (3)		
6 hours special education	Ed. 310 Methods for Deriving and Achieving Special Education Objectives (3) Ed. 312 Analysis of Classroom Behavior: The Handicapped Learner (3)		
6 hours	VOTEX Ed. 295 Special Topics: Practicum in Diversified Occupations (6) or, VOTEX Ed. 301 Research (6) Or, Special In-Service Courses (6)		

1/ Open electives if VOTEC 241 and/or 250 completed in undergraduate work

2/ Plus VOTEX Ed. 152 Intro. to Voc.-Tech. Ed. (3) and

APPENDIX O

SUMMARY OF RESEARCH

The Validity of the Nonreading Aptitude Test Battery for Educable Mentally Retarded Students

William Halloran

More than six million people in the United States are mentally retarded. Of these, nine-tenths are capable of employment but have difficulty finding and holding jobs (Phelps, 1965). For this reason, many public and private rehabilitation agencies have extended their services to retarded individuals who are seeking to enter our complex job market. Before specifying rehabilitative programs or procedures, an assessment of the client's vocational potential must be made. This is done to avoid training these clients for employment inappropriate for their interests or aptitudes.

Unfortunately, attempts to assess the vocational aptitude of the educable mentally retarded (EMR) have been largely unsuccessful due to the limited verbal skills of the EMR's. To alleviate this problem of assessment, the United States Training and Employment Service (Droege, Showler, Bemis and Hawk, 1970) developed and released a new vocational aptitude assessment instrument called the Nonreading Aptitude Test Battery (NATB). The NATB is an adaptation of the General Aptitude Test Battery (GATB) which has been used extensively for high school vocational guidance programs and in employment service counseling. Super (1965) identified the GATB as "potentially the most useful instrument of individual (vocational) diagnosis which has been developed."

Even so, in its present form, the GATB, according to Droege and Hawk (1970), is not appropriate for counseling individuals who are culturally and educationally disadvantaged. Rather, individuals with limited verbal ability, regardless of etiology, should be assessed by an instrument which demands less verbal ability than the GATB.

Droege, Showler, Bemis, and Hawk (1970), in describing the development of the nonreading edition of the GATB, have concluded that on the basis of several item analysis and validation studies a non-reading edition of the GATB is necessary for assessing vocational aptitude of mentally, culturally, and educationally disadvantaged individuals.

Purpose

This research was an attempt to determine if the NATB is a valid instrument for identifying Occupational Aptitudes of educable mentally retarded and borderline intelligence students in Diversified Occupations programs. In addition, a determination of the relationship between Peabody Reading Comprehension scores and GATB and NATB scores was made using Pearson Product Moment Correlation Coefficients. Also, the relationship between the Wechsler Intelligence Scale for Children (WISC) scores and scores on the GATB and NATB was determined. Each research question posed by this study was stated as a hypothesis to be tested.

Hypotheses

H1 The number of Occupational Aptitude Patterns as determined by the General Aptitude Test Battery and the Nonreading Aptitude Test Battery will be positively related.

H2 The Nonreading Aptitude Test Battery will identify more Occupational Aptitude Patterns than the General Aptitude Test Battery.

H3 Measured I.Q. will be positively related to the General Aptitude Test Battery scores and the Nonreading Aptitude Test Battery scores.

H4 The verbal sub scores of the individualized I.Q. test will have a significantly higher relationship to the cognitive aptitude scores (G, V, S, N) of the General Aptitude Test Battery than the cognitive aptitude scores of the Nonreading Aptitude Test Battery for the following scales (G, V, S, N).

H5 The performance sub scores on the individualized I.Q. test will be positively related to the Nonreading Aptitude Test Battery scores and the dexterity and perceptional scores of the General Aptitude Test Battery.

H6 Measured reading comprehension will be positively related to both the General Aptitude Test Battery scores and the Nonreading Aptitude Test Battery.

Results

Hypotheses 1 and 2 dealt with the Occupational Aptitude Patterns identified by the GATB and NATB for secondary aged Educable Mentally Retarded and Borderline Intelligence students. In Hypothesis 1 a Pearson Product-Moment Correlation Coefficient of .846 was computed showing the relationship between the number of OAP's identified by both tests. In analyzing hypothesis 2, it was found that the mean number of OAP's identified by the NATB (7.10) was significantly greater than the mean number of OAP's identified by the GATB (3.70).

Hypotheses 3-4-5 dealt with the relationships existing between I.Q. and the various GATB and NATB aptitude scores. Hypothesis 3 showed that all of the GATB and NATB aptitude scores excepting NATB-Q and GATB-Q, clerical perception, were significantly related to the full scale I.Q. scores. Hypothesis 4 showed that there was no difference in the relationship between Verbal I.Q. and the cognitive aptitude scores of the GATB and the cognitive aptitude scores of the NATB. Hypothesis 5 showed that a positive relationship existed between Performance I.Q. and all aptitude measures of the GATB and NATB with the exception of Clerical Perception-Q, and K, Motor Coordination, on both tests.

The findings of Hypothesis 6 showed that a significant relationship existed between measured reading scores and aptitude scores for G (Intelligence), V (Verbal Ability), N (Numerical Ability), and K (Motor Coordination) on both tests. Reading ability is definitely a factor in performance on Aptitudes G, V, and N on both tests.

Conclusions

The major implication deduced from the findings of this study was that the NATB is a more effective instrument for the identification of occupational aptitude patterns for educable mentally retarded and borderline intelligence students than its more commonly used counterpart, the GATB.

While it was shown that more OAP's for retarded and borderline intelligence pupils were rendered by the NATB, this population, nevertheless, scored considerably below the norm for most subtests on both the GATB and NATB.

It was learned that the NATB is more expensive, takes longer to administer, and can be given to fewer students during a single test setting than the GATB. These limitations were considered minor, however, when contrasted with the benefits inherent in its use.

Another significant reason for selecting the NATB over the GATB is the fact that several GATB subtests require a minimum reading proficiency of 7th grade level. Yet, the students in this study had a mean reading grade level of only 3.7, well within the range usually ascribed to retarded students of similar chronological age. One can readily postulate the interference which this reading deficiency of nearly 4 grade levels poses to examinees with reading handicaps who must use the GATB.

By identifying substantially more OAP's for this population, a vocational counselor is able to discuss many more fields of training and placement with his retarded or borderline intelligence client than he can when using GATB results. As Elo and Hendel have aptly stated in the American Journal on Mental Deficiency, "Being classified as 'mentally retarded' has implications for what happens in the period of time from acceptance to closure in addition to influencing the outcome of vocational rehavilitation...(Thus) the implementation of a realistic program of vocational assessment of retarded individuals is crucial."[1]

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[1]Margaret R. Elo, Darwin D. Hendel, "Classification as "Mentally Retarded': A Determinant of Vocational Rehabilitation Outcomes?" American Journal of Mental Deficiency, Vol. 77, No. 2, 1972, p. 198.

Many factors, in addition to aptitude appraisal, determine the ultimate degree of success and satisfaction an individual can derive from participation in the world of work. Even so, given the effect that scores may have on counselors and students alike, one should not overlook the fact that the NATB yields results which can be viewed more positively than scores rendered by the GATB.

In the original statement of the research problem, it was noted that a reliable aptitude measure was needed to add to the other considerations that ultimately are used in vocational counseling and placement for retarded and borderline intelligence students. The results of this study indicate that the NATB can provide valuable counseling information and should be seriously considered by counselors who are selecting testing instruments.

APPENDIX P

TSR CLASSROOM STUDY PROGRAM

BACKGROUND

The TSR is a time sampling tape recorder developed by Dr. John Swayze. The TSR records 1/2 minute intervals out of every six minute period. The recorder can sample 3 hours of "live" behavior on 15 minutes of recorded tape. The tape is then available for intensive study from many points of view, both by the individual using the TSR and by others from whom he or she seeks help.

The TSR supplies quality feedback to the user. The more accurate and pertinent the feedback, the more useful the information. A complete recording often is an overwhelming amount of information whereas a systematic series of samples provide a different kind of information which yields a different perspective.

PROGRAM OBJECTIVES

There are 4 objectives to the TSR Classroom Study Program:

1. To create an unbiased record of typical classroom occurrences.
2. To study the TSR recordings and identify patterns of interaction which are important to the classroom functioning.
3. To use the TSR recordings as a measure of change in classroom patterns resulting from planned interventions.
4. To use TSR recordings to document and support sound classroom practices.

PROGRAM SUMMARY

The TSR Classroom Study Program is your program. Every part of the Program supports your ability to take charge of your own growth and improvement. The TSR staff will work with you to show you how to use your TSR unit; to help you to analyze the tapes you select; to help you to work out solutions to your problems; and to get your help in making any part of the TSR Classroom Study Program better for you.

PROGRAM OUTLINE

1st Month

One hour orientation meeting for all Program participants which will:

1. Provide a question and answer period about the Program.
2. Show you how to use your TSR.

3. Help you to team with a friend to share in you TSR work.
4. Assign you to a TSR helping staff member who will supply you with a formal analysis and detailed comment on 4 of your TSR tapes. (We recommend you use this service on one of your tapes each month.)
5. Assure you that all TSR tapes you share with our staff are held confidential.

The rest of this month you spend making TSR tapes and · dying them for ways to better understand your teaching successes and · n from your failures. At some time during this month you should plan to sh· one of your tapes with your assigned TSR helping staff member for ·: or her analysis.

2nd Month

You continue to tape and study your tapes trying on each new tape to stress your strong points. Talk over your goals and progress with your tearmate and select another tape to share with your TSR helping staff member for formal analysis and detailed comment.

3rd Month

Two hour meeting of all Program participants which will:

1. Renew progress to date and evaluate the TSR Program.
2. Provide a question and answer period.
3. Present general classroom patterns shared by you and others in the program.
4. Brainstorm solutions to problems and look for ways in which you can help each other create more effective classrooms.
5. Detail plans for attacking common classroom problems.

The rest of the month you continue taping and pick one tape to share with your TSR helping staff member for formal analysis ar· detailed comment.

4th Month

You continue to tape and study your classroom. You select one tape for TSR analysis and comment.

During the month you will be asked again to help evaluate the TSR Classroom Study Program and to share any plans you may have for your future growth as a teaching person.

At the end of this month the TSR staff will give all program participants a summary of your evaluation of the Program. There will be nothing in this summary to identify any individual answers to the Program evaluation. What you say and feel is held confidential between you and the TSR staff.

At this time the formal TSR Classroom Study Program is at an end. The TSR staff hopes that you will continue your study and growth as a teaching person.

If at any time you wish to own or rent a TSR unit or use the help of a TSR staff member, arrangements can be made through the VOTEC Department, University of Vermont.

On behalf of the TSR staff and ourselves, we thank you.

GOOD LUCK

Letter of Introduction

Hello. I'm John Swayze, I work with Trudy and Bill Klein, together we form a team which we want you to join. The information which is in this letter is also included on a tape cassette. That tape, "Our Talk" is in the tape recorder which you received. If you prefer to listen to information rather than read it, you can put the letter down now, and listen to that tape cassette.

For those of you who are readers, here we go.
The objectives of the TSR Classroom Study Program are:

1. Objectivity: To help you gather recordings of some of the things that are said in your classroom.

2. Description: To familiarize you with a way of systematically categorizing the contents of these recordings.

3. Analysis: To identify strengths of your program.

4. Plans: To extend and to deepen the strengths of your program.

5. Feedback: To continue using systematic observation as a measurement of the success of your efforts.

To achieve the objectives which we've stated above, we will work together, and that means that we need to hear from you as well as you hearing from us.

You probably feel that you haven't had enough information yet to react to us at all, but we want you to feel free to react at any time, and at all levels. We're trying to bring you into your team as a new member as soon as possible. So, at this point if you have any reactions that you'd like to share with us, and you are a writer, please take out a sheet of paper and jot down some notes to us. If you prefer, talk them to us; you have a tape recorder, and we're more than happy to listen to any material which you put on a cassette. (Use the cassette labeled "Your Talk" packed outside of the recorder.)

The five objectives stated probably sound pretty cryptic. But they do form a table of contents for the work which we'll be doing together. Since we can't do everything at once, bear with us and receive our table of contents. We will send more information after we hear from you, and feel your weight as a member of the team.

We've included with your tape recorder a cassette marked "Our Talk" on which Bill, Trudy, and myself give you some information about ourselves and our interests in education. If you want to get to know us better, listening to that tape would be a good beginning.

We want to wrap up this long letter with a few housekeeping details.

1. Please find and fill out and return to us the self-addressed response post card included with your recorder.

2. Please save all the wrappings and boxing material that came with the package.

3. After you've listened to the "Our Talk" tape, or if you don't wish to listen to it, when you're through with it, please put it in the "Our Talk" mailer envelope, and drop it into the post box for us.

4. Make us a tape or write us a letter about yourself and your interests as soon as you can, and put it in the mail to us.

A lot of the success of our work together will depend on all of us being conscientious about doing our housekeeping and keeping up with each other. The program will necessarily move along slowly because we realize you work on a very busy schedule and can't give instant reply to us. However, on our side we pledge that all information which we receive in the mail will be attended to within 3 working days, and where we have to reply to you, you will have a reply in the mail not later than the 3rd day after we receive your information. This means that when you send us something that needs a reply from us you could expect it within 5 days, giving us 3 days to work on it and 2 days for it to reach you in the mail. Sometimes it will happen that holidays and weekends get in the way of that process and it will take longer, but be patient and if you feel that we're too slow for your pace, please let us know, and we'll try to speed up.

Sincerely yours,

John Swayze
Trudy Klein
Bill Klein

Analysis of Tapes
Using Flanders Matrix & Category System

A more objective description of Mr. Lienhard's teaching is provided by applying the Flanders categories to the recorded time samples, tabulating, matrixing and developing summary measures from the matricies.

Flanders Interactional Analysis

Over the past ten years many researchers in the field of education have been creating and refining verbal category systems with an eye to describing what happens in classroom interaction. One of the most thoroughly researched systems was developed by Flanders.

The Flanders System uses ten categories. The first seven deal with Teacher Talk. The next two, with Student Talk, and the last is other. The Teacher Talk is further divided into Indirect Teacher Talk, and Direct Teacher Talk. Indirect Teacher Talk includes categories one through four, which are: 1--accepts feelings, 2--praise, 3--accepts student response, 4--asks a question. The direct teacher talk categories five through seven are: 5--lectures or gives information, 6--gives directions or routine management, 7--criticizes or blames. The student response categories eight and nine are: 8--student answers a question, and 9--student initiates a response. The tenth and last category is silence or confusion.

An Outline of Flanders is:

Indirect Teacher Talk	1.	Accepts feelings
	2.	Praise
	3.	Accepts student response
	4.	Asks a question
Direct Teacher Talk	5.	Lectures or gives information
	6.	Gives directions
	7.	Criticizes or blames
Student Talk	8.	Student answers a question
	9.	Student initiates a response
Other	10.	Silence or confusion

The application of the system requires that a category assignment be made every three seconds or whenever the category

assignment [illegible] within three seconds. For example: If a teacher were lecturing, the category assignment would be number five; if the lecture continued for twelve seconds, there would be four number five entries made. If after the thirteenth second, the teacher asked a question, there would be number four scored. If after the thirteenth second, the teacher asked a question there would be a number four scored. If after the question he continued to lecture without waiting for an answer, the next tabulation would be number five and so on.

Once the series of category assignments has been determined for a given piece of classroom interaction, they are tabulated into a matrix, by a data system detailed by Flanders in his written publications. Then data may be extracted from the matrix which gives such statistics as the proportion of total interactions spent in Direct Teacher Talk, Indirect Teacher Talk, Student Participation, and other. A teacher who was lecturing or giving information from the front of the classroom for over a period of time would score high on Direct Teacher Talk. A teacher who was using an inquiry or discovery method would score high on Indirect Teacher Talk. Classrooms in which students participated freely and considerably would score high on Student Response. In addition to these gross measures, the system provides a way of looking at each specific category and transitions between categories.

Data Analysis from Tapes

Figures 1 and 2 present Flanders Matrices of Tape 1 & 2 outlined above. Tape 2 was not matriced or analyzed.

Discussion of Data

Inspection of both Matrices show a high tally count in the square 4,8. This data supports the impression that Mr. Lienhard uses frequent questions (category #4) and receives student's responses (category #8).

Tape 1 shows a high count in category 9,9 (N=50) which indicates sustained Student Talk. This data supports the students' own rapport that they learn from each other. Tape 2 has a high tally in space 10, 10 (N=42) which indicates silence or confusion receiving considerable time. This tape contains more bus time than Tape 1 as well as an exciting problem solving period in which an icy hill was scaled. Both the bus and hill climbing

come through the Tape as mostly confusion. The high score in this area represents a limitation inherent in audio samples more than an accurate reflection of the learning experience. Direct observation of the bus trips reveals that the experience is different for different students. Some students use bus time to converse with neighbors often about specimens or experiences related to the field trip; others play, rough house, relax or sing. The bus trips are orderly but not "straight jacketed." The icy slope climb was judged by both Mr. Leinhard and Mr. Wonderlee (the cooperating teacher on this trip) to be "a valuable and exciting experience for the group." (from notes included with the Tape.)

In Tape 1 category interaction 5,5 received a high tally count (N-38). The count indicates time spent by the teacher lecturing or giving information without interruption. These scores are accumulated mostly in the introductory (classroom) part of the day. Very little continuous lecturing takes place in the field; rather, information is given in small bits with a student reaction following (category 5,9, N=11). The field situation promotes and facilitates individual and small group exchanges in contrast to the classroom introduction which was aimed at being short and as intense as possible to get an orientation for the field experiences to follow.

Tape 2 shows about equal number of tallies in category 5,5 (N=16) and 6,6 (N=12). These tallies document the classroom time given to both content and giving of directions. The groups on

the Tape were new to the program and required orientation in the form of [illegible] and routines. Groups who have been in the program do not require as many directions. Tape 2 shows a count of 10 in the category box 3,4 that reflects a pattern of giving information followed immediately by a question, "snow shoes grip on snow, #5, do you think they'd help here, #4?" (Lienhard on an icy slope).

Notice on both Tape 1 & 2 that categories 1, 2, & 7 receive very few (N=2) or no tallies. This data documents the absence of criticism (#7) and the low frequency of praise and acceptance of feelings. In place of these responses Mr. Lienhard uses an "OK" scored in catefory #3 as accepting student's ideas (Tape 1 N=23, Tape 2 N=12). The effect of a high level of acceptance of ideas with a low incidence of praise and blame is to give a climate of adult to adult talk with reason and thought given high importance.

Table 5 summarizes the percent of transactions falling into the broad classifications indicated in Figures 1 & 2. The last column of Table 5 shows difference in the percent received by Tape 1 & 2. The largest difference (17%) is in the area of Silence or Confusion. This difference can be understood when it is noted that Tape 2 includes the bus rides and slope climbing discussed above. If the 17% difference were equally applied to the other categories the % of tabulations on both tapes would be very similar.

Table 5

% Tabulations by Flanders
Classification of Categories
(N = 604 tabulations)

Classification	% of Tabulations Tape 1	Tape 2	Difference Tape 1 & 2
Teacher Talk (total)	(55)	(44)	(11)
Indirect Influence	22	17	5
Direct Influence	33	27	6
Student Talk	36	30	6
Silence or Confusion	9	26	17

Note that the tally classifications fall roughly into thirds with equal time being spent by the teacher in direct and indirect teaching and listening to students talk. Again the data shows the high participation of students which characterizes the Back to Nature Program.

Figure 1

Flanders Matrix: Tape 1; Lienhard, Bellows Falls, Winter 1974

Category	Classification		#	1	2	3	4	5	6	7	8	9	10	Total
Accepts Feelings	Teacher Talk 55%	Indirect Influence 22%	1											
Praise			2											
Accepts Student Ideas			3				9	9	2		1	2		23
Asks Questions			4			4	5	7			24	2		42
Lectures		Direct Influence 33%	5			2	8	38	1		3	12	7	71
Gives Directions			6				1	2	10			8	1	22
Criticism			7											
Student Response	Student Talk 36%		8			15	5	7					3	30
Student Initiation			9			3	6	11	5			50	4	79
Silence	Other 9%		10			1	4	3	2			4	10	24

Figure 2

Flanders Matrix: Tape 2; Lienhard, Bellows Falls, Winter 1974

Category	Classification		#	1	2	3	4	5	6	7	8	9	10	Total
Accepts Feelings	Teacher Talk 44%	Indirect Influence 17%	1					1	1					2
Praise			2						1				1	2
Accepts Student Ideas			3			1	2		1		1	4	3	12
Asks Questions			4	1			2	2	2		21		8	36
Lectures		Direct Influence 27%	5	1			10	16	4		2	9	5	47
Gives Directions			6			1	2	3	12			14	7	39
Criticism			7											0
Student Response	Student Talk 30%		8			2	2	10	4			3	4	25
Student Initiation			9	1	1	6	8	7	4		1	26	12	66
Silence	Other 26%		10			1	3	9	9			11	42	84

APPENDIX Q

To: Selected Diversified Occupations Instructors

From: Marc Hull, D.O. VOTEC Instructor

Re: Integration Information

Teachers are often concerned about placing D.O. students in appropriate vocational classes. This is as it should be. Once students have been placed in appropriate classes, however, there should be no less concern for their success. This, in most cases, will necessitate getting some accurate feedback about the progress of students.

Before we can identify the variables which account for the successes or failures of students placed in regular vocational classes, we need to obtain certain kinds of data. What is more, we need assistance from several people to compile this data. Specifically, the data we should compile would include:

1. verbal interaction between D.O. students and other students
2. the number of times teachers direct specific questions to D.O. students
3. the number of times D.O. students speak in class
4. the number of times D.O. students seek clarification of information that has been presented
5. the number fo times D.O. students ask for additional help
6. the degree to which peer tutoring is used to help D.O. students.

Undoubtedly, this information could be obtained in any of several ways. The most practical method would be to use the Time Sampling Recorder (T.S.R.) developed by Dr. John Swayze. The tapes could be analyzed by an aide, a student teacher, or the VOTEC D.O. staff.

Before recording the classes of other teachers, carefully explain why you want to obtain information and how the information will be used. Your principal should also be made aware of your intentions.

If you are willing to help us gather this important data, please let us know. We will gladly come to your school to explain the purpose and procedure of the data retrieval effort to interested individuals.

There are two major outcomes that we envision from this effort. First, we hope this effort would enable us to discover what skills successful teachers employ with D.O. students. Next, we hope to learn what D.O. instructors can do to support their students when they are integrated into regular classes.

Should the question of protection of human rights be raised, we have an approved form which participants may sign that protects them from having any information adversely used against them. A copy is attached.

Your cooperation is always greatly appreciated.

Department of Vocational Education & Technology
University of Vermont

To: Participants in VOTEX research project

From: Marc Hull, Instructor, and Gerald Fuller, Department Chairman

Re: Consent to participate in an educational research effort

The Vocational Education and Technology Department is developing a system for analyzing teacher-student verbal exchange during periods of occupational training. You have been asked to participate in developing such a system. To accomplish this, it is necessary to make audio-recordings of verbal exchange which occurs within your classroom.

Recordings are made using a Time Sampling Tape Recorder. With your consent, the Time Sampling Tapes will be analyzed by you and an experienced educational psychologist, Dr. John Swayze.

You and Dr. Swayze will analyze the tapes using a transactional analysis matrix. Your classroom communication will be discussed with Dr. Swayze. Following this, a program will be developed to change any aspects of your classroom communication that you desire to change. Only those tapes which you wish to have analyzed will be heard by Dr. Swayze.

Records noting any aspect of your participation in the program will be maintained only at the request of the participating teacher.

YOU HAVE THE RIGHT TO REFUSE TO PARTICIPATE IN THIS RESEARCH EFFORT IF YOU WISH. IF YOU DO NOT WANT TO PARTICIPATE, INFORM US NOW.

Any tape recordings developed during this research effort will be destroyed by being erased in your presence unless you wish to have them saved.

This agreement is made in compliance with recent regulations developed to protect the human rights of individuals participating in federally funded research in education or the social sciences.

Signed _____

Date _____

APPENDIX R

TIPS ON HOW TO SELECT INSTRUCTIONAL MATERIALS

by

Marc Hull
and
Dr. Gerald Fuller
VOTEC Department
University of Vermont

Considerable forethought and planning by the teacher are essential if the most appropriate and effective materials for classroom use are to be selected. Otherwise, the selection of instructional materials may rest solely on such inadequate influences as the attractiveness of catalogs, the amount of class time the materials are advertised to consume, or the ease with which the materials can be handled or prepared by the teacher. Responsible selection of appropriate materials begins with a comprehensive evaluation of a student's learning characteristics and, of equal importance, an evaluation of what the materials must accomplish in terms of the educational objectives of the class, course, unit, or lesson.

The tips and guides presented represent a summary of key points that were identified through a search of literally hundreds of books, journal articles and similar secondary resources.

IDENTIFY STUDENT CHARACTERISTICS

It almost goes without saying that one must know the child to teach the child. With greater opportunity to "know" his students, the alert career oriented teacher caters to the unique characteristics of each student. One way students may be

described is according to such characteristics as their ability to hear (auditory), see (visual) or talk (oral). They may also be characterized by their thinking (cognitive), feeling (affective) and doing (psycho-motor) skills and aptitudes. Those within the majority ranges of such senses, skills and aptitudes are able to participate in the majority oriented instructional processes.

However, many students, including those within special groups, may have special learning characteristics that must be carefully considered when selecting, developing or using instructional materials. For example, when selecting verbally oriented materials for students with limited formal vocabulary or with low level reading ability, the teacher must be aware that ascending levels of abstraction promote the danger of failure.

The alert teacher will select materials that emphasize concrete examples and demonstrations; materials with stimulating pictures and graphic illustrations, ones that are simple, understandable and make liberal use of repetition; materials with related multi-sensory activities; and materials with applications which are immediate and closely related to the student's own experiences. Verbally dominated materials devoid of pictures or other sensory stimuli will be rejected. He may even select materials that use an alternate language such as the symbolic language expressed in drawings and blueprints.

Characteristics of such special groups as the mentally handicapped, for whom "overlearning" concepts and skills is essential, require the teacher to select materials that show

good design, include alternatives to high levels of abstraction, and have been constructed to withstand constant use.

CONSIDER EDUCATIONAL OBJECTIVES

The teacher who provides learning experiences according to a valid instructional design will analyze a material's actual, rather than advertised content. He does this to determine whether the materials will enable his students to acquire the specific behaviors intended by his instructional objectives. Instructional objectives are selected because of their relevance to the persisting life needs of students and to assist students in their solution of the complicated demands of society, home and the world of work. Instructional materials should be selected which relate in relevant and meaningful ways to the students' immediate needs and experiences.

Most materials experts agree that in view of the multi-ethnic makeup of many classrooms, learning aids and materials should reflect a cultural awareness representative of the background of the potential users. Materials should be avoided which suggest by omission or commission that any racial, religious, or ethnic segment of our population is more or less worthy; more or less capable; more or less important. Materials should help students build positive images of all racial, religious and ethnic groups and appreciate the fact that important contributions to our civilization are made by members of all the various human groups of which we are a part.

A consideration which cannot be overlooked in occupational education is the selection of materials and equipment that

replicate, or closely resemble the tools and situations to which learning will be transferred. No symbolic or vicarious materials should be purchased if the "real thing" is available.

In recent years we have witnessed the development and widespread use of instructional materials which utilize the techniques of programmed or "learner-paced" instruction. The teacher may want to consider this kind of material because of its adaptability to the individual student, its immediate provision for gratification and the ability to help a student judge his own progress.

Certain design characteristics should be "built into" all materials. Materials should be accurate and uncomplicated in their presentation of information. They should be legible and as colorful as practical. They should generate a feeling of realism, of "having been there." In addition to being durable they should be easily manageable by the teacher or student user.

It is often wise to share the task of selecting instructional aids with other teachers, administrators, parents and especially with students. Because materials are selected primarily for student use, it is conceivable that students should review new materials before they are purchased or frozen into an instructional sequence.

CONSIDER THE SOURCES

Arranging for trial use of materials is a practice which eliminates many of the pitfalls of buying sight unseen. Most firms will send materials for a trial period, but the potential

purchaser must be sure to return them within the allotted time period; we have all learned that billing computers are nearly impossible to turn off.

If a sales representative insists that his firm's materials are the latest and the greatest, and pushes a unique product as this year's "best seller", remember that such claims may be totally irrelevant to th- success of the product in your particular class. Teachers should not be afraid to be professionally objective in the presence of sales personnel. Salesmen should be prepared to validate all claims made for a product.

When purchasing from competitive firms, teachers must not neglect to consider whether adequate service is available should equipment or aids become inoperative. Service of equipment, availability of parts or "loaner" equipment, repair and follow-up is extremely important and all too often, completely overlooked by teachers when they buy mechanical or electrical devices.

Ready access to valid information about the strengths or limitations of materials, aids or equipment is essential for appropriate selection and use. The alert teacher will want to keep informed of agencies whose personnel are in a position to report on the effectiveness and characteristics of materials. Such broad based agencies as Educational Products Information Exchange, Regional Education Laboratories, state and local departments of education, and teacher preparation departments within colleges and universities can supply information to facilitate wise selection and use of materials.

Other agencies like the Council for Exceptional Children, (C.E.C.) Regional Instructional Materials Centers, (I.M.C.) American Society for the Blind, Area Manpower Institutes for Development of Staff, (AMIDS), or Manpower programs may provide teachers with check lists if requested and regularly feature listings of materials or related articles in professional journals and magazines.

CONSIDER DEVELOPING YOUR OWN MATERIALS

Despite the many commercial materials which are available, there remains the distinct possibility that teachers will have to develop their own materials. The designer-developer must take into account all the considerations for selecting materials, and more.

Students should also be involved in the development of materials. Students learn as they build. They become more interested in the learning process because they are making contributions. Students can be recognized and made to feel that their contributions are worthwhile. It is a profitable idea to let the student sign any work he had done, and let that form of recognition motivate him still further.

Although such materials as transparencies, overlays, photos, slides or tapes can often be made for less than their usual commercial price, a teacher's time and energy have a price; practically speaking, there may be little gained in "reinventing the wheel" if desired materials can be purchased from commercial sources at a reasonable cost.

If you have ideas for developing materials, but lack the equipment or talent to do so, try to secure the cooperation

of fellow trade, industrial or practical arts teachers; or media services personnel. Drafting or graphic arts instructors can assist in getting ones' ideas down on paper; while metals, woodworking, or plastics instructors are experts in manufacturing products. Teachers too seldom share experiences and resources with each other.

Perhaps written materials are what teachers most frequently develop by themselves. These can be developed and presented in a variety of ways. They can call for completion of notes, completion of diagrams, coloring of parts, connecting of circuits, troubleshooting diagrams, answering simple check lists, solving problems, developing shopping lists or constructing simple games.

Some tips for the teacher who finds it inviting or necessary to develop his own written materials include:

1. Keep in mind the learning characteristics of the reader.
2. Relate topics to the student's interests, background, and needs.
3. Maintain an informal style.
4. Use a word list such as the "Forge-Thorndike First One Thousand Words."
5. Keep it simple, make it fun.
6. Test the material on a sampling of students.
7. Use good paper and proper size of type or print.

Many teachers have found their written materials are enhanced by including cartoons, illustrations, pointers or other devices to break up the monotony of printed symbols. Research indicates that this is a valid practice nut teachers must remember that they are liable to prosecution for plagiarism

for using such well-known, well loved, but copyrighted characters as Snoopy, Peanuts, Superman, or Moon Maid. To avoid this risk students should be encouraged to develop a character that is their very own.

Probably the best resource for the potential materials developer is a comprehensive audio-visual test; one that has an abundance of practical "how to" information.

CONSIDER USE AND EVALUATION

Once a teacher has purchased or developed insyructional materials he will want to make the most efficient possible use of them. The effective use of materials calls for such practices as using a pointer to focus attention on particular parts of a visual, seeing a film two times instead of one, giving pictorial reviews for verbally dominated presentations, covering visuals when not in use; a good audio visual text will suggest many more practices.

Most teachers have discovered that students can be readily and successfully trained to operate nearly all instructional equipment. Not only is this practice a highly reinforcing experience for the students, it also encourages their active involvement in other aspects of the total learning process.

Using equipment and materials effectively means the teacher will need to give considerable time and thought to storing and cataloguing; as well as arranging materials for their optimum use. An instructor may need to request or improvise additional classroom storage areas, study carrels, or electrical receptacles.

It is most frustrating to arrange to use specific instructional materials only to discover that the classroom cannot be darkened for projection; or there are no 3-way adapters in the building; or a written message is illegible to the students seated in the rear of the room.

Modifying or adapting materials to better meet the needs of individuals is a task teachers often find necewsary. If major alteration of equipment or materials is impractical yet necessary, the materials should not be purchased or used in the first place.

Evaluators generally agree that the worth of any material is directly related to the benefits derived by the pupils using the material. If instructional materials facilitates the acquisition of desired skills within a reasonable amount of time and with a reasonable expenditure of effort, it is undoubtedly valid for classroom use. Listed in the attached bibliography are sources for the teacher who desires a comprehensive framework for evaluating instructional materials.

CONSIDER SHARING WITH OTHERS

The NWREL project is attempting to point out the benefits of sharing materials. For each reference to successful materials a teacher makes to NWREL he receives many referrals in return. As educators learn to share their successes, students, in turn, will share academic and occupational success in greater measure.

APPENDIX S

To: D.O. Instructors
From: VOTEC D.O. Staff
Re: EXIT PLAN

Sooner or later every student enrolled in our D.O. programs will EXIT permanently from the K-12 public education system. Some will be very eager to go, others will be glad to go but apprehensive, and a few will hate to leave. But regardless of how the students feel about the EXIT, this final event will occur whether or not the students are prepared for it. And, after their exit date, any vital remediation, any essential job training, any crisis counseling that is needed will become the responsibility of an advocate other than the local education district. But who, when, and how?

Studies show that a significant number of retarded adolescents will adjust quite admirably to the demands of a familiar social economic setting. Even so, there is not sufficient evidence for the administrators or the teachers of an educational institution to feel that they can close their doors before opening some doors of other agencies which the handicapped student can turn to at some crisis point later in life or during their adjustment to independence.

In short, it should be axiomatic for any institution or agency that must terminate services for a retarded individual (regardless of the reasons for this termination) to open the doors of other agencies which may be needed in the future.

In this presentation a plea is made for a purposeful exit for all D.O. students who leave the formal education scene. A purposeful exit is one in which new doors open as old and familiar doors close.

There are numerous reasons why preparing for a purposeful exit must occur early in the school year. At the end of the year, numerous personal and professional matters engross the classroom teacher. In addition to normal classroom activities, this is the time designated for preparing final reports, purchasing another year's supplies, finding summer employment, arranging further education, and more.

Within a few weeks after school is underway, the teacher should begin EXIT activities. Certain activities are suggested as minimal preparation for a purposeful exit.

1) Through classroom discussions and activities, orient pupils to the role of helping agencies.*

2) Identify personnel in local agencies who are able and willing to deal with handicapped clients. Arrange for a "get acquainted" meeting with someone from the agency. Agencies which could be involved include: Vocational Rehabilitation, Social Welfare, Mental Health, Planned Parenthood, Legal Aid, and more. Possibly these agencies are presently involved with one or two students within the program so that their staff is already acquainted with the school program. Explain that you are requesting a different service from what is presently being rendered.

3) At the first meeting, with representatives from any agency, state explicitly what the goals of the EXIT PLAN are:

   a. an on-site informal presentation/discussion by an agency representative with students. During this presentation there should be an explanation of what the agency is, what services it offers, and what its staff members do for work (this is a viable career education activity but the emphasis is on how the agency can serve the student who is about to become the citizen).

   b. Next, arrange at least one visit by the terminal students to the agency where they will meet with the same agency representative that previously visited them in their familiar school setting. When possible this meeting should simulate the actual transactions that occur when assistance is requested from the agency. Indeed the intent of this meeting may be securing bonifide assistance if the needs of the student are such that he is eligible for the services of the agency at the time he visits.

4) School personnel monitor these visits and converse freely with the student about his impressions of the agency. Guidance personnel should be involved in this process. Attitude and knowledge pre-

and post-tests may yield some useful feedback, but open, relaxed discussion is also critical.

5) When possible have a file initiated for each student involved If the myriad forms requested by agencies can be filled out with assistance from an understanding advocate, it may prevent some potentially embarrassing situations at a later time when the student must rely on the agency.

6) Follow-up activities can include role playing, discussions, filling out applications, etc.

*Illustrated units offering information on agencies are presently under construction and will be available at a later date.

APPENDIX T

VOTEC D.O. RELEASE #18

CONCEPT TEACHING

Almost everyone who has enrolled in a technical subject such as a statistics course knows how bewildering it is to be exposed to an abundance of new concepts and vocabulary within a short span of time. In a statistics course, for instance, it is not uncommon to be quite perplexed by one's first encounter with such terms and concepts as "coefficient of correlation," "covariance," "multiple regression," "standard deviation," etc. Such encounters, however, should enable us to comprehend more fully the reluctance which EMR's often express when they are integrated into vocational courses that have vocabularies of their own as well as names for hundreds of tools, accessories, and materials which are unfamiliar to the student.

A major purpose of the D.O. program is to assist students to learn some of the vocabulary and concepts associated with vocational subjects in which they may later enroll.

Although this goal can be accomplished in a variety of ways, a procedure referred to as concept teaching has proven to be most effective for helping students learn the names of tools and materials.

An excellent presentation of concept teaching is found in Teaching: A Course in Applied Psychology. The authors present three principles that should be considered when teaching concepts.

"To teach a concept it is necessary to insure that responding is controlled only by the essential characteristics of the concept. There are 3 rules concerning how to do this:

1. It is not possible to teach a concept through one instance and one not-instance. A set of instances and not-instances is required.

2. The set should be constructed so that all instances have all essential concept characteristics, and not-instances possess none or only some of these characteristics.

3. Within the set of instances and not-instances, it is necessary to vary stimulus characteristics that are not essential to instances or not-instances.[1]

Presently, we have developed two programs based on the format suggested by Becher. One program teaches students to correctly name 10 types of bolts, 10 nuts, and 8 types of cap screws. The materials consist of 3 cassette tape-slide presentations, a tray of assorted bolts, nuts and cap screws, (instances and not-instances), and chest of drawers for grouping each of the objects. These may be requested for use by any D.O. program. Another set of materials based on the same format has been developed for teaching money concepts; this, too, may be borrowed from the VOTEC department. These materials were developed to serve as models of the concept teaching procedures. Research reported by R. C. Anderson indicates that line drawings which emphasize the essential characteristics are even more effective than photographs of the actual object.

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[1]Becher, Engelman, Thomas, Teaching: A Course in Applied Psychology, Science Research Associates, Chicago, pp. 240-241.

As soon as sufficient data has beencompiled to establish the effect of the various modifications of Bechers format, it will be distributed among the D.O. programs for further consideration.

It appears that after a concept is learned it can be maintained satisfactorily using a traditional flash card drill approach.

Credit for developing the concept teaching materials goes to Peter Markowski. Peter spent many weeks making photographs, cassette tapes, and assembling the materials. Your reaction to them will be greatly appreciated.

Concept carriage bolt
(name it - i.e. "carriage bolt")

1. This is a carriage bolt.

State essential characteristics.

1. A carriage bolt always has an oval head with no
2. slot and a square neck.
3. _____
4. _____
5. _____

*2. State essential characteristic #1

arrow ----> Notice the oval head with no slot

*3. State essential characteristic #2

arrow ----> Notice the square neck

*4. State essential characteric #3

arrow ----> Notice the _____

*5. State essential characteristic #4

arrow ----> Notice the _____

*6. State essential characteristic #5

arrow ----> Notice the _____

7. All of these are carriage bolts
(multiple examples of concept)

Notice that each of these carriage bolts has
an ovrl head with no slot, square
neck

essential characteristics _____

_____

_____

8. These are not carriage bolts, these bolts have diff. names.

(Include the "not instances" - other bolts)

Notice they do not have oval heads with no slots combined with square necks

essential characteristics

9. Once again, these are carriage bolts (same as #7).

Notice the oval heads with no slots and the square necks

essential characteristics

10. Now look at the tray before you. Take all the carriage (concept) bolts out and place them in drawer # two.

Picture of all bolts & drawer.

11. Do you have each of these bolts in drawer _____? Name them. _____

(for example): the large black _____
the small white _____

12. If you placed all _____ bolts into drawer _____ you learned about _____ bolts very well. Aren't you smart!

13. You are now ready to learn about _____.

14. This is a _____.

Begin with #1 and continue.

BOLTS, NUTS, & SCREWS

VOTEC D.O. Materials

Pre-Post Assessment

NAME: _____
SCHOOL: _____
AGE: _____
TEACHER: _____

When you begin the tape-slide show you will be asked some questions. Please answer the questions on this side.

(circle one)

1.	A	B	C	D
2.	A	B	C	D
3.	A	B	C	D
4.	A	B	C	D
5.	A	B	C	D
6.	A	B	C	D
7.	A	B	C	D
8.	A	B	C	D
9.	A	B	C	D
10.	A	B	C	D

APPENDIX U

LEARNER'S PERMIT RESEARCh

One problem that was recognized in the early stages of the curriculum design for D.O. students was the absence of any adequate materials for preparing the students for the Vermont Learner's Permit Exam. Before a student in Vermont public schools could enter a Drivers Education class he had to pass the state sponsored written Learner's Permit examination.

Time and time again Diversified Occupations students would fail this exam. Some students required five or six attempts before they could pass the exam. Others who were quite capable of driving, gave up the thought of doing so because of the problems this exam presented.

Because of this problem a method for preparing EMR students for their Learner's Permit exam was developed by a D.O. academics instructor in White River Junction. Forms similar in content and format to the State exams were designed through the cooperations of the motor vehicle department. Once these forms were completed they were field tested during a UVM sponsored summer session. The results of this approach were successful during the summer session. The results of this approach were successful during the summer program and when subsequently used with D.O. students in White River Junction. Consequently this technique was implemented in courses sponsored by the Professionals Development Project.

The following project-related materials are included:

1. Summer Session case study report
2. Practice Learner's Permit Exam - Form 1
3. Practice Learner's Permit Exam - Form 2
4. Practice Learner's Permit Exam - Form 3
5. Practice Learner's Permit Exam - Form 4

PREPARING EMR LEVEL STUDENTS FOR THEIR LEARNERS PERMIT EXAM

Richard H. Lee

Referral Problem

Peter was asked by his teacher to participate in a summer school program sponsored by the University of Vermont Graduate School of Education. Secondary level students of varying ability ranges and in need of remedial assistance in basic academic skills were being sought. Admission to the summer session was simply contingent upon student availability and willingness to participate. Peter, a member of a local secondary level Special Education (Diversified Occupations) program, expressed a desire to attend the session. He would be paid two dollars a day fee each day he attended, and as he had no summer job, the idea of being paid for going to school, at the time, seemed appealing.

Pupil

Peter was a sixteen year old boy who had been diagnosed as an educable retardate. According to the WISC scale of intelligence which was given in 1970, his IQ indicated a 75 verbal and 85 performance level with a full scale score of 80. Though his oral reading level stood in the mid-fifth grade range, it was apparent his comprehension level tended more toward a high third grade level. He had been a member of special education classes for one year and was to enter his second year in the Diversified Occupations program at Essex Jct. Vocational Center. When the time came for him to attend the summer session, he decided not to attend school even if he would be paid for it. Peter neglected to attend the first two class sessions. On each of these days his tutor for the session, a D.O. instructor, visited his home. When told he could work toward his Learners Permit for driving, Peter agreed to attend school on the following morning. However, he failed to arrive the next morning, so his tutor again saw him at his home. Peter told him, "There's no way I can pass that state exam--I'm too dumb." Nevertheless, with some friendly persuasion Peter again agreed to be at school, and arrived reluctantly the next day.

Description of Classroom

Peter's classes, beginning at 10 a.m. daily, involved a twenty-five minute private session with his tutor followed by a twenty-five minute "Language Arts" class. The latter class contained seven boys and three girls ranging from fourteen to sixteen years of age. The class members represented a wide variety of socio-economic backgrounds and academic levels. The students worked individually or in groups of two under the supervision of a classroom manager who gave assistance when the need arose.

Instructional Objective

As was indicated, Peter was to work toward his Learner's Permit. His objective was to pass the Department of Motor Vehicles written examination, which would be administered orally. To do this he must achieve a score of 80% on a test containing twenty multiple choice questions. The test would be randomly selected from a total of six test forms that the Motor Vehicle Department had to offer. The questions on each form were based upon material covered in the 23rd Edition of the Vermont Driver's Manual.

Measurement Procedures

In order to be eligible to take the State Exam, Peter would have to score 100% on each of four forms similar to the State form. These forms, containing twenty multiple choice questions each, were devised by Peter's tutor based on his knowledge of questions likely to be asked by the State Department of Motor Vehicles.

Classroom Procedures

1. During the first tutoring session Peter was orally administered form 1 which represented, as do any of the State tests, a random selection of twenty questions. This particular form served as the unit pre-assessment.

2. Upon completion of form 1, Peter was given immediate knowledge of results. Each question was reviewed by the tutor. The parts of the driver's manual covered by the questions were pointed out to Peter who underlined them in his own manual.

3. Each subsequent test form was administered and reviewed in a similar manner. No more than one form was administered during each tutoring session. After Peter could complete one test form with 100% accuracy he would be permitted to begin another on the following day. Any remaining time during the tutoring session would be devoted to reviewing the manual and road signs.

4. During the Language Arts class, Peter was assigned the task of reviewing his manual and road signs. Once he had completed a form with 100% accuracy during the tutoring, he would work on another copy of it individually in Language Arts class. He was soon able to complete all four test forms on his own at this time of day.

5. Peter's post assessment for the unit was the test given him by the Department of Motor Vehicles. An oral exam was arranged for him, but he chose to read it himself.

Results (See Graph)

The results of this technique proved effective. Peter went from a 45% on his preassessment (Form 1) to 95% on his post-assessment (State exam) in eleven days. Prior to taking his Learner's Permit Exam he was able to achieve 100% proficiency on all four practice forms within eight days of his pre-assessment.

Discussion

The critical factors behind Peter's success were his desire to drive and his access to areas of knowledge that would be required of him during his Driver's exam. He had to master approximately sixty rules of the road and forty road signs. The fact that he was considered mentally retarded and had a low opinion of his intellect was not important once he realized he could master the material. Given the equivalent nature of the practice tests to the State exam, Peter was fully prepared for the State exam. More important than the obvious benefits of having a Learner's Permit was Peter's new found faith in his abilities. He was the first one in his family to ever pass the exam on the first try! Most of his friends in general-level classes at his high school had failed to pass it on the first attempt. Peter now had a success that would put him on a par with his more academically skilled peers. His delight over his accomplishment was gratifying to observe, as was that of his parents. Peter's experience can serve as an example to those who might question the ability of EMR level students to achieve in an adult world.

Follow-up

Since the time this method proved effective with Pete, his tutor has worked with nineteen EMR level students toward their learner's permits. Of those nineteen students, seventeen have passed their state exams on the first try. The other two passed it on the second try.

LEARNER'S PERMIT TEST

FORM 2

Directions: Mark the correct circle.

1. Before you are close enough to read signs you can tell their meaning by their:

   ○ size
   ○ shape
   ○ position on roadway
   ○ style of lettering

2. You may lose your license to drive:

   ○ if you get a speeding ticket
   ○ if you lend your license to anyone
   ○ if you don't have your car inspected
   ○ if you have bald tires

3. When it becomes necessary to stop on an icy or slippery road:

   ○ gently pump your brakes
   ○ hit the brakes hard
   ○ only shift down
   ○ all of the above

4. In order to steer out of a skid:

   ○ turn your wheel in the opposite direction of the skid
   ○ let go of the steering wheel
   ○ turn your wheel straight
   ○ turn your wheel in the direction of the skid

5. Before making a left hand turn:

   ○ move over to the right side of the road before signalling
   ○ check for following cars, signal, and move over to just right of the center line
   ○ check for following cars and move to the left of the center line
   ○ move over to the left hand lane after checking for following cars

6. Whenever you see a person crossing the street carrying a white cane or guided by a dog:

   ○ pull over to the right and stop
   ○ slow down and go around him
   ○ stop your car until he has crossed the street
   ○ yield the right of way

7. When you hear a siren and see a vehicle displaying a blue flashing light:

- ○ yield the right of way
- ○ keep going but stay out of the way
- ○ pull over to the right and stop
- ○ ignore it

8. One reason carbon monoxide poisoning is difficult to notice is because:

- ○ it smells like burning rubber
- ○ it smells like gasoline
- ○ it has no odor
- ○ none of the above

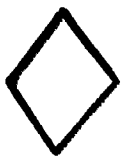
9. You must have your lights on in the evening:

- ○ by 7:00 p.m.
- ○ by one half hour before sunset
- ○ by sunset
- ○ by one half hour after sunset

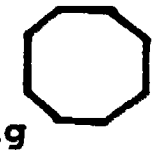
10. A flashing yellow or amber light at an intersection means:

- ○ stop
- ○ caution - slow down
- ○ light about to turn red
- ○ school zone

11. What do each of the following signs mean



- ○ stop
- ○ yield
- ○ warning



- ○ stop
- ○ yield
- ○ warning

- ○ stop
- ○ yield
- ○ warning

12. When driving through fog or bad weather:

- ○ use your parking lights
- ○ use your bright headlight beams
- ○ use your dim headlight beams
- ○ leave your lights off

13. When you come upon a school bus that has stopped and is displaying red flashing lights:

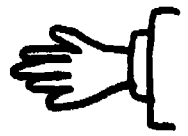
- ○ you must stop when behind it
- ○ you must stop
- ○ you must stop when it is in front of you facing the opposite direction
- ○ you must slow down and pass cautiously.

14. What do each of the following hand signals mean:

○ stop
○ right turn
○ left turn

○ stop
○ right turn
○ left turn

○ stop
○ right turn
○ left turn



15. If you miss your exit getting off a super highway:

○ stop and back up
○ go on to the next exit
○ make a U turn
○ all of the above

16. When driving at night you must dim your lights:

○ when approaching a car head on
○ when approaching a car from either direction
○ when approaching a car from behind
○ when approaching a bridge overpass

FORM #2

LEARNER'S PERMIT QUIZ

ANSWER SHEET

EXAMPLE: A flashing red light means:

(A) caution
(B) stop
(C) light subject to change
(D) pedestrian crossing

1. B
2. C
3. A
4. D
5. C
6. B
7. B
8. B
9. D
10. C
11. C,A,B
12. B
13. C
14. C,B,A
15. B
16. C

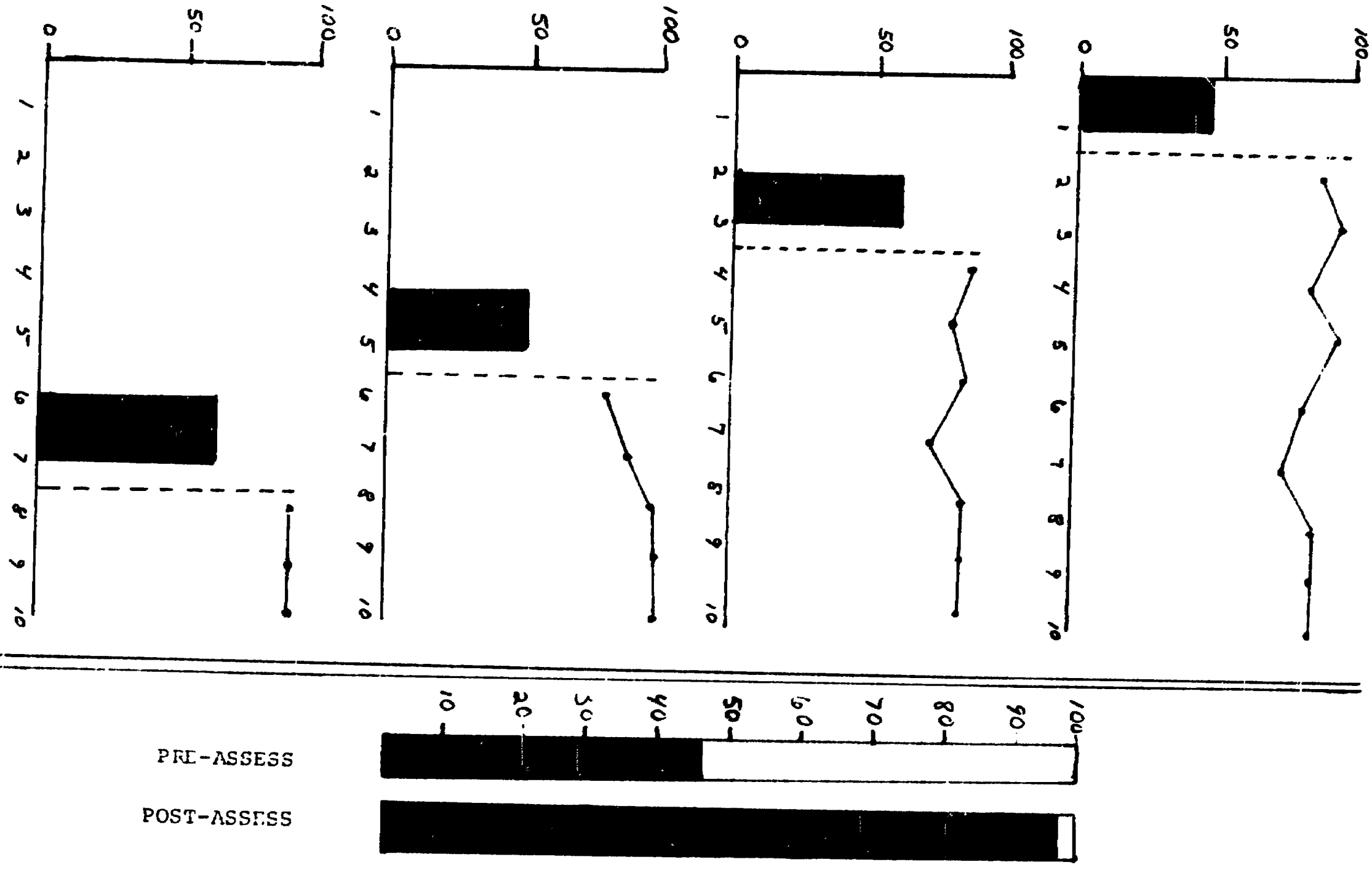
PERCENTAGE CORRECT

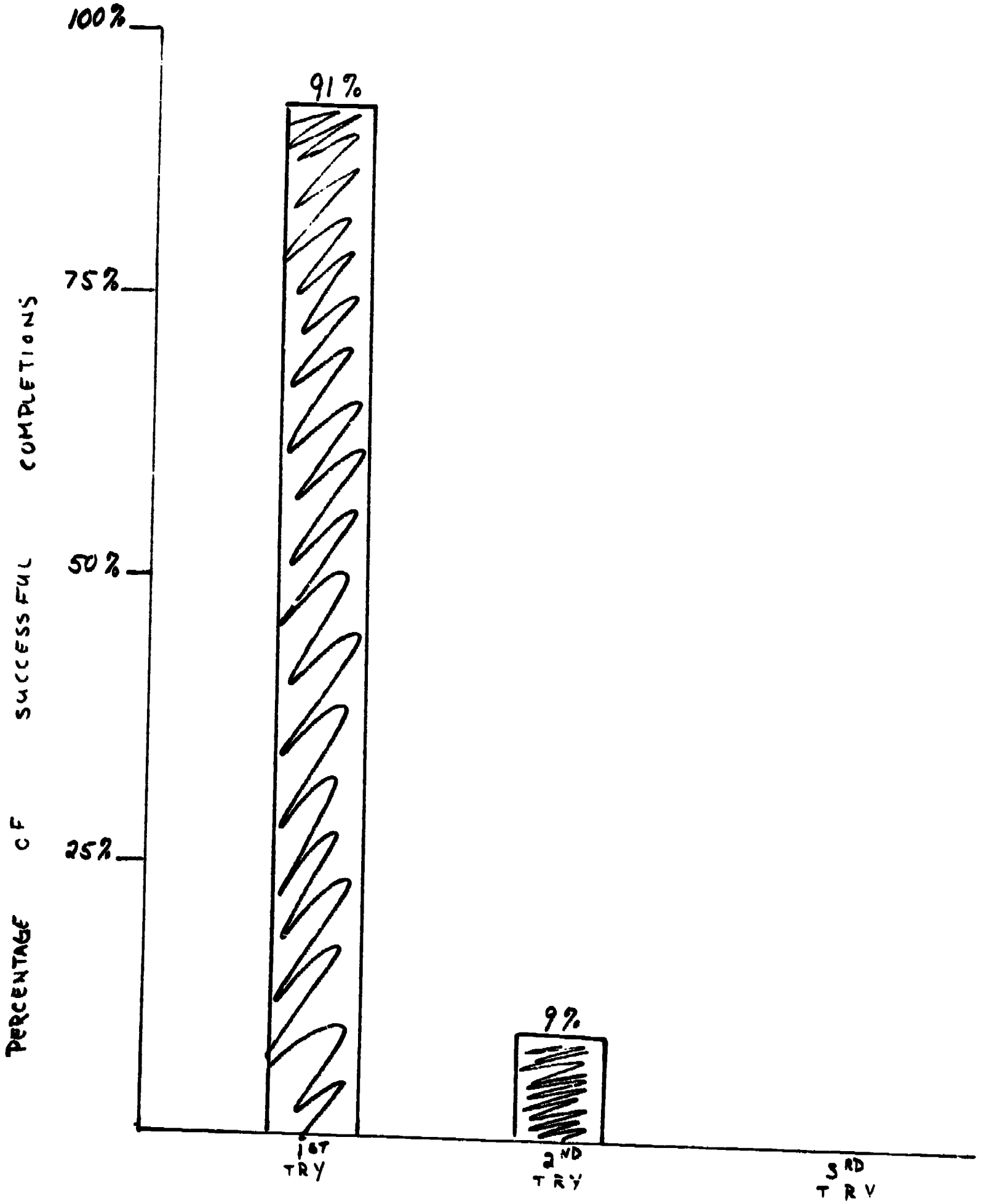
FORM 4

FORM 3

FORM 2

FORM 1





(17 OF 19 STUDENTS PREPARED WITH THIS APPROACH HAVE PASSED THE STATE EXAM ON THE FIRST TRY.)

APPENDIX V

The University of Vermont

DEPARTMENT OF VOCATIONAL EDUCATION & TECHNOLOGY
COLLEGE OF AGRICULTURE
AGRICULTURAL ENGINEERING BUILDING
BURLINGTON, VERMONT 05401
(802) 656-2001

June 30, 1974

To: Diversified Occupations Instructors

From: Marc Hull, D.O. Votec Instructor

Re: Woodworking Techniques, Slide/Sound Production

Many of our teachers have discovered that commercially prepared media is not always appropriate for use with D.O. students. For this reason, we have cooperated with Guelfo Bertolini of the Randolph Area Vocational Center to develop a series of slide/sound presentations designed specially for slow learners. To accomplish this, exemplary research funds were obtained from the Vocational Education division of the Vermont Department of Education. These funds were used to procure the assistance of Dr. John Swayze, an educational psychologist and media expert.

Dr. Swayze has worked with Ward Whitlock, D.O. Instructor, to produce a series of 35mm slide/cassette tape presentations demonstrating 9 woodworking techniques. Ward performed all "the action" required for the picture sequences and reviewed the finished photography. He also is preparing sound tracks to accompany the pictures in two of the units.

The picture technique used in the productions is unusual in that two pictures are presented side by side on each slide. Typically a detail will accompany a long shot which presents the viewers with both content and relevant details at the same time. The sound track is innovative in that a student's voice is used to be the "teacher" and an adult voice is used as the "student." Throughout, the sound tracks have been kept basic and conversational. Detailed facts were left out of the presentations. If additional information is needed it can be presented by the instructor who uses the films.

Appropriate pre- and post-tests have also been developed for use in conjunction with the presentations. The VOTEC D.O. project has duplicated two of the units and plans to make them available for review on a loan basis. The entire series may be viewed at Randolph A.V.C.

We encourage you to review these materials and seek mini-grants or exemplary funds to develop similar presentations in other areas. If we can be of assistance in such an endeavor, let us know. Have a pleasant and profitable summer vacation.

APPENDIX W

Curriculum Development

In recent years, numerous teaching techniques have been developed and refined which promise to promote learning. As one might expect, there has also been a rapid production of educational gadgets, gimmicks, and games to accompany the emerging techniques. Nevertheless, despite the availability of these promising innovations, many teachers enter their classrooms day after day virtually empty handed.

In an attempt to curtail the adverse effects of ad lib or laissez-faire teaching, the Division of Special Educational and Pupil Personnel Services, Vermont Department of Education, has encouraged the development and specification of minimum objectives (representing minimum expected learning outcomes) for every special education program operating within the state.

Because the educational goals of many of the state's special education classes are similar, it seemed feasible for the Division of Special Education to coordinate the development of instructional objectives. Not only would this help to curtail duplication of effort among programs, it would also promote uniformity of content. In the summers of '73 and '74, funds were made available to sponsor a series of summer workshops where instructional objectives could be developed on a coordinated basis.

As the curriculum objectives were developed in the workshops, they were arranged in well-devised sequences and compiled

into booklets or manuals. Collectively, they are referred to as the Learning Experiences Assessment Program or simply LEAP reports. As noted in the following segments, the LEAP report manuals serve many purposes.

Goal Setting

Recently in the American Journal of Mental Deficiency, a research report was published which focused upon the effects of goal setting. In the article, the authors pointed out that the performance of educable mentally handicapped students, on simple educational tasks was significantly greater under goal-setting conditions than under conditions where goal statements were lacking. The authors learned that students who clearly understood what behavior was expected of them would perform better than those who did not. As an application of their findings, consider teaching a certain task to two students with similar abilities and handicaps. The students receive simultaneous instruction thus making possible a comparison of learning outcomes. Prior to presenting the lesson, one student is taken from the room and carefully told what is expected of him as a result of the ensuing instruction. The other is not. Repeated research confirms that the student who knows what is expected of him will learn more efficiently (as measured by pre- and post-tests) than the student who is given identical instruction but is not made aware of what he is expected to know or do as a result of his learning experience. In conclusion, empirical data supports the view that when clear statements of objectives are communicated to students, learning is

more efficient, and educational goals are attained more readily.

Aids to Classroom Management

A careful review of each LEAP manual's content will enable the teacher to develop lesson plans, select or develop accompanying materials, arrange field experiences and make whatever preparations will assure a productive learning experience for each student. An entire class can work on objectives in a simgle LEAP manual, or some teachers may prefer to have students working in several manuals simultaneously. Any approach is acceptable provided that students are achieving the minimal objectives for the various manuals. In many of the manuals projects are suggested for students to complete as an indication that they have mastered the enabling skills within the manual. The products that students make, however, should never be considered as important as the skills the students learn while completing their projects. For instance, it is more important for a student to learn how to saw, hammer, fasten, sand, paint, andmeasure than it is for him to make a birdhouse. Usually projects will motivate learning; but they should never become the only outcome of a learning experience. This is to say that the learner is entitled to take something home in his head as well as in his hands. Recall the proverb: "Give a lad a fish and he'll eat for a day; Teach a lad to fish, and he'll eat for a lifetime."

Assessment of Student Performance

Students who are enrolled in secondary level special education programs generally receive prevocational training in

at least six vocational areas. Ideally, the training is "learning to mastery;" that is, the student is expected to achieve at least the minimum standards prescribed in the performance objectives. Assessment of student perofrmance is relative to the program's training objectives and is considered a critical instructional task. Actually, five kinds of assessment are needed:

1. Before-lesson assessment that is diagnostic, prescriptive, and directive in nature; thus allowing the student to concentrate on areas of weakness or perhaps to by-pass the lesson entirely.

2. Immediate and continuous within-lesson assessment to furnish the student the feedback that is an integral part of the learning process itself.

3. Immediate and continuous eithin-lesson assessment to confirm attainment of each capability before proceeding to the next, because each learning experience systematically builds on a preceding learned capability.

4. End-of-lesson and end-of-unit assessment to predict the capacity of students to proceed to related or advanced lessons and units.

5. End-of-course assessment to predict transfer of knowledge and skill to on-the-job situations, and to predict performance in related or more advanced courses.[1]

Teachers may find that a detailed breakdown of performance tasks in the form of criterion-referenced objectives is sufficient for all five kinds of assessment.

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[1]F. Coit Butler, Instructional Systems Development for Vocational and Technical Training, Englewood Cliffs: Educational Technology Publications, 1972.

The LEAP manuals used for monitoring student achievement measure behavior, for the most part, in onlyone unit: correctness. The performance is evaluated by the teacher as either correct or incorrect. For this reason, those using hte manuals may find it desireable to incorporate such other measures as speed, accuracy, economy of effort, degree of independence, or other criteria.

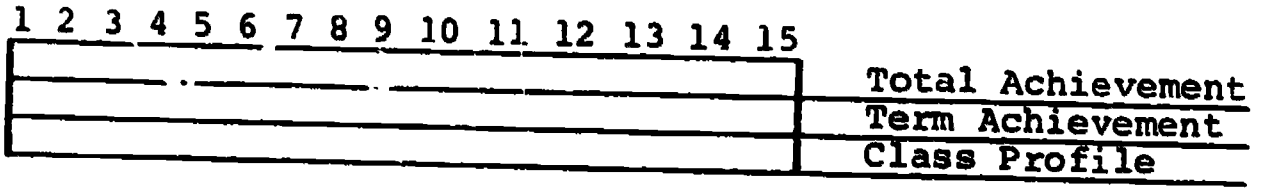
Recording Student Achievement

A form for recording student progress is suggested for each LEAP manual. As a student completes the prescribed learning tasks, his achievement is blocked out in the Total Achievement column. (See sample below). The column labeled "Term Achievement" is blocked inonly when a student remains in the same cluster for more than one reporting period. In the column labeled "Class Profile", the teacher enters where each student is in relation to the entire class. For example, if 4 students in a class of 13 have completed 12 enabling tasks, an entry is made under objective 12. (See sample) The example noted below indicates that 2 of 13 completed tasks 1-15. One can readily tell if a student's progress as indicated on the profile is average, above average, or below. At times this is valuable information. Note, however, that the class profile can be used only when the objectives are being learned in the sequence given in the manual.

The recording form also enables the teacher to list the major projects that a student completes for each cluster. Because the forms become part of a student's cumulative records,

they should be as complete as possible. These forms are included in all progress reports made to the State Department of Education. Hopefully they represent an improvement over previous reporting procedures.

Apply exterior finishes



In addition to the learning tasks above, the student completed the following projects:

1 _____ Very Good ( ) Good ( ) Fair ( ) Not Acceptable ( )

2 _____ Very Good ( ) Good ( ) Fair ( ) Not Acceptable ( )

3 _____ Very Good ( ) Good ( ) Fair ( ) Not Acceptable ( )

Special Comments:

Other types of assessment forms may be developed for use with the LEAP manuals. One type of observation form is the one that records several gradations of performance. In this form the "yes-no" or occurence-nonoccurence responses of the bar graph are replaced by descriptive levels or graphic ratings. In the bar graph form, a filled-in space constitutes satisfactory or unsatisfactory perofrmance. In the rating scale, on the other hand, a description of what constitutes each level of performance may appear on the form for everyone to see. This

makes it possible for scorers to check one another maore closely and for the persons being scored to find out more exactly the nature of their performance. (See below)

Rating Form for Applying Varnish

Action Observed	Unsatis-factory	Partly satis-factory	Satis-factory
I. Preparing surface			
1. Checks dryness			
2. Removes dust, using suitable cloth			
3. Removes grease or wax			
II. Getting the varnish ready			
1. Pours only enough varnish for the job			
2. Does not pour varnish back into can			
3. Checks varnish flow and takes corrective steps if necessary.			
III. Applying varnish to wood			
1. Checks room temperature and ventilation			
2. Sprinkles floor to lay dust			
3. Checks clothing for dust			
4. Selects brush of suitable size			
5. Checks brush for cleanness and loose bristles			
6. Dips brush into varnish about 1/3 the length of the bristles			

Regardless of the rating form used to note evaluations, there are numerous dimensions of behavior that should be taken into consideration when evaluating student performance.

Measurable Dimensions of A Performance in Progress

1. Speed. One of the more obvious aspects of a performance if its speed. This is very simply measured by the time it takes a pupil to complete the performance. At times, valuable comparisons may be made among performances. It should be noted that speed is an essential factor in most job-oriented performances.

2. Accuracy. Another important and common dimension of a performance is accuracy. As a matter of fact, we hear the "speed and accuracy" of performance mentioned more than any other aspects. Accuracy is commonly measured in terms of error counts. This presupposes, of course, that there exists a rather detailed concept of how the performance should be carried out ideally, and any deviation from this ideal is to be considered an error. Several types of errors can be identified, and consequently accuracy is a very broad dimension. Precise measurement usually requires thataccuracy be broken down into some of its subdimensions, two of which are listed below.

a. Procedural errors. This type of error requires the existance of only one correct sequence of steps or one pattern to follow incarrying out the performance. It would mean that the procedure has been formalized or standardized by society in general or by special groups. Usually the given procedure has been established on the basis of experience and general acceptance, but in any event a deviation from the procedure would be counted as an error. This would apply particularly to performances

governed by generally accepted rules of etiquette, as in serving meals or by legal procedures, as in driving an automobile.

b. Errors in following instructions. These errors would occur when the performance is made inresponse to instruction. Deviations for the given directions would indicate a degree of noncompliance with the requirements of the task. Errors of this type may be due to actual inability to carry out the instructions or they may be due to inadvertent mistakes. Typing errors are a good example of the latter.

3. Discrimination. This dimension involves the selection or choice of tools, equipment, and movements used in carrying out the perofrmance and the perception of stimuli that accompany the performance. Measuremer of the dimension is done in terms of adequacy and effective for the operation performed. Discrimination is an imp. ant dimension in woodworking, electricity, auto mechanics, and in other crafts where several tools and pieces of equipment are used and where the article being made or repaired must be perceived carefully and accurately.

4. Economy of effort. Another important dimension in performance is the economy of effort involved. Here we look for the amount of effective motion as against the amount of "lost motion" or trial-and-error behavior. This aspect of performance s closely related to speed in that the more economy of effort there is, the greater will be the speed of the performance. There is also an element of discrimination involved whenever a choice of movement is made. In most instances,

however, the dimension of economy of effort is a matter of well-trained and coordinated muscular movement that makes the performance seen easy and effortless. This attribute is particularly desirable in jobs. It is always an essential element in any activity that requires a great deal of muscular coordination, such as using a skill saw, torque wrench, or other pressure tools.

5. Timing. This dimension has to do with the rate and emphasis of movement in a complex motor performance. In the operation of a piece of machinery such as a lathe, a crane, or a bulldozer, the several levers and wheels must be operated at exactly the right time and to the right extent. The dimension of "timing" is also involved in any team play, in gymnastics, and of course, in music and dancing.

6. Intensity. Another component of a performance to be considered is the intensity of the action. The outward manifestations of this dimension would be the force or amplitude of the movements involved. Intensity is of particular importance inperformances involving strokes, such as tennis, golf, handball, or baseball. The desirable degree of intensity is dependent upon the requirements of the task at hand. It is possible that there may be too much force exhibited or too little, and measurement will have to be in terms of deviation in either direction from some optimum degree of intensity.

7. Coherency. This dimension applies to performances in which there is no single correct procedure or sequence of steps for carrying out the tasks involved. In such a case it would

be impossible to measure each performance step in terms of adherence to an ideal procedure. Consequently, actions must be judged on the basis of their internal consistency or their mutual appropriateness.[2]

The dimensions of performance described above can easily be rendered into an elaborate evaluation matrix. (see below) This matrix is probably too time consuming to use for every student and every objective. It could, however, be a useful instrument for an occasional in-depth evaluation of student performance.

In the matrix, the objectives are numbered in a vertical column to the left of the matrix. The evaluation factors or dimensions are listed horizontally along the top. Letters or numbers may be used to denote the rleative level of persormance. These may be S (superior), G (good), F (fair), P (poor); or any other notation. If numbers are used, column can be totalled and compared with an acceptable norm score.

NAME OF STUDENT: _____

SUBJECT: _____

PROJECT: _____

DATE: _____

EVALUATOR: _____

EVALUATION MATRIX

LEAP Objectives	general construction	selection of materials	speed	accuracy	selection of tools	regard for safety	economy of effort	degree of independence	timing	intensity	coherency	concern for texture, color, style	flavor, tenderness	appearance	cleanliness	conformity to directions	general performance	cumulative score
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Another type of observation form is the anecdotal form. This is the most informal type of observation form, since it consists essentially of a blank sheet of paper on which the teacher records as objectively as possible what is observed in a performance. This type of form would be particularly useful when the performance situation is new to the teacher and somewhat fluid so that no clearly defined dimensions have as yet been established. Where verbal description is to be the form of measurement, the anecdotal form obviously is the only appropriate recording device.

Teachers who do not want to maintain individual progress charts may elect to use a group progress chart. Several variations of group progress charts are used to record student progress. In addition to listing class participants, such progress charts may list operations, informational topics, or projects for cross-checking purposes. Usually such charts are placed in a conspicuous place in the classroom and are updated whenever a student acquires one of the listed skills. The question is often raised about the effect of progress charts on those who are not making progress. A method of recording progress described below figure 2 which can eliminate this concern. Furthermore, if one's instruction is clear, direct, and appropriate every student will make measureable progress.

A sample group progress report is depicted in figure 2.

COURSE: WOODWORKING

HOUR:

GRADE:

NO.	NAME	OPERATION: IDENTIFY + USE HAND PLANES	CUT IRREGULAR SHAPES USING COPING SAW	IDENTIFY + USE FASTENERS PROPERLY		
1	Edward Batten	B	C	C		
2	Hoyt Burnard	A	C	C		
3	Aaron Duffy	C	C	D		
4	Edward Henderson	B	B	C		
5	George Krause	C	C	C		
6	Burton Merris	A	A	B		
7	Gary Season	C	B	C		
8	Joseph Stone	B	A	C		

FIGURE 2

Some teachers merely record a check mark in the space.

Others draw a diagonal line in the space when the student is present for instruction;

when he has acquired the skill, the top corner of the square is filled in,

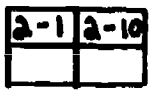
and either the final grade received, ·

or the points earned, is placed in the bottom triangle.

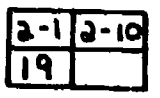
Some teachers desire even more information, so they divide the space into four parts.

When the student starts the topic, the date is placed in the upper left-hand corner.

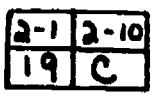
When the topic is finished, the date is placed in the upper right hand corner.



The points are recorded in the lower left-hand corner,



and the effort mark in the lower right-hand corner.



These are merely examples; the ingenuity of the teacher and the needs of the class dictate the system.*

Selecting and Developing Instructional Materials

To effectively select, adapt, or develop instructional materials for classroom use, one needs to take into consideration the learning characteristics of the students who will use the materials. In addition, one needs to consider the objectives for the course, class, unit, or lesson. The LEAP manuals can function very effectively as springboards for selecting or developing instructional materials. Such materials as film loops, video tapes, or slide sets can be developed locally following the outline of concepts and skills listed in the manuals. An excellent series of filmstrips for the woodworking cluster were developed in teh Randolph Area Vocational Center in the Spring of '74. Dr. John Swayze, a media expert and educational psychologist, developed the slide sets in conjunction with Ward Whitlock, the D.O. Instructor. These may be examined by contacting Mr. Robert Watson, Director, Randolph AVC, Randolph-Braintree Union H.S., Randolph, Vt. You may want to explore the possibility of securing a mini-grant or exemplary funds to develop your own materials. Dr. Swayze is available as a private consultant to local school

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*adapted from Teaching Successfully in Industrial Education, G. Harold Silvius, Estell Curry, McKnight & McKnight Publishing Co., Bloomington, Ill.

dsitricts who want to explore developing instructional resources. Dr. Swayze lives in Tunbridge and can be contacted at his home. There may be other media experts in your district who can offer such assistance. Personnel from the Vermont Department of Education may prove helpful as sources of information for the innovator.

The LEAP manuals also serve as an excellent guide for collecting and organizing instructional resources. A resource notebook has already been compiled for the Gardening and Groundskeeping manual. This resource, compiled by Richard Ahern, horticulture instructor at Essex Junction High School, illustrates a method for collecting and arranging resources that support a LEAP manual. The resource notebook for Gardening and Groundskeeping consists of 47 publications in the areas of 1) floriculture, 2) tree care and 3) lawn care. It also lists and explains 12 classroom activities.

Summary

LEAP manuals provide the classroom teacher with a valuable tool for monitoring the quality and quantity of learning that occurs in a special education classroom. Any feedback concerning their strengths and weaknesses that can be incorporated into future revisions will be greatly appreciated.

Dr. William Halloran,
project director

Fay Charles,
project coordinator

Marc Hull,
project coordinator and editor

FOODS AND NUTRITION

INSTRUCTIONAL OBJECTIVES

FOR

MAXIMIZING HUMAN POTENTIAL

IN

HOMEMAKING

PREPARED BY TEACHING PEOPLE:

FAY CHARLES
CAROL CANTWELL
NANCY CORP
LORRAINE WOOD
CAROL LIVINGSTON
DIANE FAIRBANKS
CHRISTINE MORGAN
PATRICIA IRVING
MARC HULL

FOODS AND NUTRITION

TABLE OF CONTENTS

INTRODUCTION

A significant number of mentally handicapped individuals come from deprived environments where the quality of food may be poor and the quantity of food nutritionally unbalanced. For this reason, it is very important for these individuals to develop an understanding of what constitutes well-balanced, nutritional meals.

Lessons in foods and nutrition should be very practical. Students should actively participate in buying, preparing, and serving foods that are economical, nutritional, and easily prepared.

FOODS AND NUTRITION

Motivational Projects

1. Have students prepare their own cookbooks.
2. NUTRITION BINGO -- This game may be obtained from Gillom Book Company, Kansas City, Missouri 64124 ($5.25).
3. Create crossword puzzles of food terms.
4. Bulletin boards of well planned menus.
5. Take newspaper shopping trips.
6. Make interesting items such as butter, buttermilk, ice cream,
7. Make up tasting panels for comparing foods.
8. Give teas, host parties, meals, etc.

Reference Materials

Pamphlets

1. Cooking with Betty Crocker Mixes, large type edition. Betty Crocker Kitchens, General Mills, Inc., 9200 Wayzata Boulevard, Minneapolis, Minnesota 55440. (Very good)
2. "Food and You" by the American Institute of Baking, 400 East Ontario Street, Chicago, Illinois 60611.
3. "The Wonder of You" -- address above in #2.
4. "Key Nutrients--Food for Young Families" (5¢) Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. Other excellent pamphlets from same source:

   "Peanut Butter" -- $1.00/100 copies
   "Cheese" -- $1.00/100 copies
   "Fish" -- $1.00/100 copies
   "Beef and Pork" -- $1.00/100 copies
   "Dry Beans" -- $1.00/100 copies
   "Rolled Oats" -- $3.00/100 copies
   "Poultry" -- $1.00/100 copies
   "Whole Grain or Enriched Breads and Cereals" -- $1.00/100
   "Eggs" -- $1.00/100 copies
   "Canned Chopped Meat or Canned Luncheon Meat"-- $1.00/100
   "Selecting and Buying Food" -- $ .05
   "Meal Planning Made Easy" -- $ .05
   "Principles of Cookery" -- $ .05
   "Eat to Live Better" -- $ .05
   "Money-saving Main Dishes" -- $ .20

5. "Mr. Peanut's Guide to Nutrition" --
   "Mr. Peanut's Guide to Entertaining -- Standard Brands Educational Service, P. O. Box 2695, Grand Central Station, New York, N. Y. 10017

6. "Three Times a Day" MedCom Learning Systems, MedCom, Inc.

7. "Food Recall"
"Long Live the King" (a skit) Expanded Food and Nutrition Educational Program.

8. "Armour Fresh Meat Study Guide"
"Armour Processed Meats Study Guide"
"Armour Poultry Meal Planner"
Armour and Company, Chicago, Illinois 60690

9. "Let's Cook Lamb"
"Lamb Cuts"
American Lamb Council, 520 Railway Exchange Building, Denver, Colorado 80202

10. "Hamburger" (5 sections) Hunt-Wesson Kitchens, Box 3331, Fullerton, California 92634

11. "Four Steps to Weight Control" -- Metropolitan Life.

12. Pamphlets and recipes on chocolate -- Hershey Foods Corporation, Hershey Chocolate and Confectionary Division, Hershey, Pennsylvania 17033

13. "Have Fun with Animal Cut-up Cakes"
"Food for You and Your Family"
General Foods Kitchens, General Foods Corporation, 250 North Street, White Plains, N.Y.

14. Dairy Council -- Big Ideas Workshop.

15. "Quaker Quotes" -- (a quarterly publication) "Budget Saving Recipes" -- The Quaker Oats Company, Merchandise Mart, Chicago, Illinois 60654

16. "Oster Electric Fondue Cookbook" -- John Oster Manufacturing Company, Milwaukee, Wisconsin 53217

17. "Stuffing Sampler"
"Turn to Sandwiches"
American Institute of Baking, 400 East Ontario Street, Chicago, Illinois 60611

18. "Cereal Recipes and Facts" -- Cereal Institute, Inc., 135 South LaSalle Street, Chicago, Illinois 60603

19. "Kerr Home Canning Book" -- Kerr Glass Manufacturing Corporation, Sand Springs, Oklahoma.

20. Ball Canning Company Folder
"Canning and Freezing Sketchbook"(free)
"Successful Home Canning" (free)
"The Science of Food Preservation" (free)
"The Ball Blue Book"(one free)
Consumer Service Department, Ball Brothers Co., Inc., Muncie, Indiana.

21. "Canned Food Tables"
"It's on the Label"
"Common Sense Emergency Food Plans"
"Focus on Canned Foods"
Consumer-Service Division, National Canners Association, 1133 Twentieth Street, N. W., Washington, D. C. 20036

22. "Ten Short Lessons in Canning and Freezing" -- Kerr, Field Services Department, Sand Springs, Oklahoma.

23. "Better Baking and Proper Frying" -- Home Economics Department, Proctor and Gamble, P. O. Box 14668, Cincinnati, Ohio, 45214

24. "Nutrition Handbook for Family Counselling" -- National Dairy Council, Chicago, Illinois 60606

25. Write for list of booklets from: Cooperative Extension Service, New York State College of Home Economics, Cornell University, Ithaca, N. Y.

26. "Food and You" -- Kansas Wheat Commission, Hutchinson, Kansas.

27. Booklet on Meat Publications and Visual Aids -- National Livestock and Meat Board, 36 South Wabash Avenue, Chicago, Illinois 60603

28. Lessons on cookware, bakeware, cutlery, Wear-ever -- Kitchen Cook School, Chillicothe, Ohio 45601

29. "Libby's Shop and Serve Guides to Canned and Frozen Foods" -- Home Economics Department, Libby, McNeil and Libby, Chicago, Illinois 60604

30. Betty Crocker "How-to" booklets
"Merry Muffin Making"
"How and Why of Packaging"
"Better Biscuits"
"Cooky Wise"
General Mills, Inc.

Filmstrips

Easy as Pie
Yeast Breads
Beautiful Cakes
Cooky Wise
Convenience Cooking
Modern Cookery, Instantized
Muffin Making
Biscuits Plain and Fancy
Packaging
Flair with Frostings and Desserts

Available from Betty Crocker Kitchens, General Mills, Inc., 9200 Wayzata Boulevard, Minneapolis. Minnesota 55440

Film

"Better Breakfasts, U.S.A. (free) -- University of Vermont Media Center, Burlington, Vermont 05401

Microfiche

Twin State Educational Information System, State Department of Education, Montpelier, Vermont 05602

Search #740 035	Curriculum Guides--Home Economics for the Educable Mentally Retarded
Search #12	Home Economics Junior High Level
Search #155	Home Economics--Elementary Education Programs
Search #166	Home Economics Curriculum
Search #170	Home Economics Program Junior and Senior High
Search #315	Home Economics Curriculum Grades 7-12
Search #467	Foods Instruction

FOOD AND NUTRITION CLUSTER

TERMINAL PERFORMANCE OBJECTIVE

After completing prescribed learning activities the student, when provided the necessary equipment and supplies, will be able to prepare a nutritional meal. The student will state the nutritional value of food items prepared. All skills must be demonstrated to the satisfaction of a qualified instructor.

ENABLING OBJECTIVES

I. NUTRITION

THE STUDENT IS ABLE TO:

1. Explain the need for sound nutrition in relation to good health.

2. Explain what constitutes a "well-balanced" meal.

3. List three of the basic nutrients from memory:
   a) proteins
   b) carbohydrates
   c) fats
   d) minerals
   e) vitamins
   f) water

4. List five common foods high in nutrients.

5. State minimum information about each nutrient.

   a) protein - 1. chief body builder
      2. found most often in meat and milk group

   b) carbohydrates
      1. supplies quick energy
      2. 3 forms: starches, sugars, bulk (cellulose)

   c) fats - 1. supply energy
      2. insulate body
      (example : margarine, salad dressing, cooking oil)

   d) common minerals - give strength and rigidity to body tissues
      1. calcium
      2. iodine
      3. iron

e) common vitamins - release energy from foods

1. A
2. D
3. C
4. B vitamins

f) water - 1. essential for life
2. aids digestion

6. Explain unique nutrition needs of certain age groups

1. adolescents
2. babies
3. pre-schoolers
4. senior citizens
5. pregnant & lactating women

7. List basic four food groups.

8. Explain need for maintaining desirable weight.

9. List five causes of obesity

a) poor diet
b) lack of exercise
c) impulsive eating
d) eating between meals
e) combination of above

10. Describe various programs for losing weight

a) Diet Workshop, TOPS, Weight Watchers
b) isometric exercises
c) eating less
d) exercising more
e) food decrease and activity increase

11. Recognize the need for weight control in terms of:

a) appearance and grooming
b) general health
c) exercise and weight
d) related specific diseases (heart, diabetes, etc.)

12. Explain the meaning of "calorie" in terms of what "too many" or "too few" calories can do to you.

13. Explain what sensible dieting is.

14. Explain what "fad diets" are and how they affect health.

15. List 5 food types which are nutritious but low in calories.

16. Plan nutritious low calorie meals for one week.

17. List several "safe snack foods".

18. Keep an individual record of weight loss and gain.

19. Read weight on 2 types of scales

    a) doctor's scale
    b) conventional bathroom scales

20. Explain terms associated with weight control

    a) overweight
    b) underweight
    c) malnourished
    d) obesity

21. List sources of free and accurate nutrition information:

    a) County Extension home economist
    b) U.V.M. School of Home Economics
    c) Vermont Dairy Council

II. BASIC FOUR - MILK PRODUCTS

THE STUDENT IS ABLE TO:

1. Identify 5-10 dairy products.

2. Explain where dairy products come from and basic operations used to make dairy products.

3. Explain the value of eating and drinking dairy products.

4. Sample four dishes using dairy products.

5. Determine when dairy products are spoiled.

6. Identify daily serving needed for balanced diet.

7. Explain the different categories of:

    a) milk
    b) cheese
    c) butter
    d) cream

8. State proper storage for dairy products.

III. BASIC FOUR - MEATS AND MEAT SUBSTITUTES

THE STUDENT IS ABLE TO:

1. Identify foods found in meat group

    a) meats

b) poultry
c) fish and shellfish
d) eggs
e) dried peas and beans
f) nuts

2. Identify number of servings required per day.

3. List 5-10 cuts of meat.

4. Explain the nutritional benefits of eating meat.

5. State various methods of meat preparation.

6. Identify tender and less tender cuts of meat.

7. Explain how to choose the best cut of beef

a) government label
b) marbelized
c) deep red color
d) cut of meat

8. Explain how to choose the best poultry

a) read government label for inspection stamp
b) check appearance
c) date on label

9. Explain how to choose the best pork

a) check for inspection stamp
b) check for fat as compared to lean
c) check if flesh is firm and pink in color

10. Explain how to choose the best fish

a) check for USDA label
b) check for bad odor
c) check how fresh fish is being refrigerated

11. Determine amount of meat needed per person for a meal when using:

a) boneless meats
b) meat with bones
c) canned meats

12. List a variety of meats

a) liver
b) kidney
c) heart
d) brains
e) sweetbreads

13. Compare costs per serving of different meats.

14. Compare costs and nutritional value of meat substitutes.

15. Explain storage of meats.

IV. VEGETABLES AND FRUITS

1. List 5 examples of fruits and vegetables.

2. Explain the benefits of eating vegetables and fruits.

3. Identify minimum daily requirements of fruits and vegetables

4. Compare fresh, frozen and canned vegetables in the following ways:

   a) taste
   b) color
   c) texture
   d) nutritional values

5. Compare fresh, frozen and canned fruits in the following ways:

   a) taste
   b) color
   c) texture
   d) nutritional values

6. Explain the best time to buy certain fruits and vegetables:

   a) in season
   b) on sale
   c) in quantity

7. Explain what to look for when buying fresh fruits and vegetables:

   a) crisp
   b) bright color
   c) free from bruises
   d) firm

8. Prepare fresh fruits and vegetables for eating.

9. State proper storage of fresh fruits and vegetables.

V. BREAD AND CEREAL GROUP

THE STUDENT IS ABLE TO:

1. Explain the nutritional benefits of eating breads and cereals.

2. Identify 5 common bread/cereal products.

   a) breads - white, wheat, rye, etc.
   b) cooked cereals

c) ready-to-eat cereals
d) cornmeal
e) crackers
f) macaroni and spaghetti (pasta)
g) rice
h) rolled oats
i) quick breads
j) other baked goods

3. Identify minimum daily requirement for breads and cereals.

4. Taste bread and cereal products.

5. Identify spoilage (mold) etc.

6. Store properly to prevent spoilage and nutrient loss.

VI. MEAL PLANNING

THE STUDENT IS ABLE TO:

1. List daily food requirements according to the Basic 4.

2. Plan a day's meals according to the Basic 4 requirements.

3. Plan menus for a family for a week.

4. Include a variety of foods each day and from day to day. Introduce a new food from time to time.

5. Vary flavors and textures. Contrast strong flavor with mild, sweet with sour. Combine crisp textures with smooth.

6. Try to have some meat, poultry, fish, eggs, milk, or cheese at each meal.

7. Make a collection of nutritious recipes that the family enjoys and serve them often.

8. Plan foods with color--a slice of red tomato, a sprig of dark greens, or other garnish.

9. Combine different sizes and shapes of food in a meal, when possible.

10. Use recipes which include leftovers from previous meals.

11. Distinguish between high and low cost meals.

12. Keep food budget in mind.

VII. SHOPPING FOR FOOD

THE STUDENT IS ABLE TO:

1. Make a grocery list from menus.
2. Check specials in newspaper.
3. Look through coupons clipped from magazine.
4. Determine quantities to purchase.
5. Compare costs of brands and product sizes using unit pricing labels.
6. Locate the following information on labels or packages:
   a) name of item
   b) style of pack (whole, crushed, etc.)
   c) brand name
   d) weight, volume, or quantity
   e) number of servings
   f) ingredients
   g) nutritional value, if possible
7. State rules of shopping etiquette:
   a) return products to proper shelf
   b) do not block grocery aisles for other customers
   c) do not open or break seals on packages, jars, etc.
   d) do not damage fresh foods
8. Identify faulty packaging:
   a) dents
   b) rust
   c) breaks
9. Identify layout of grocery stores.

VIII. FOOD STORAGE

THE STUDENT IS ABLE TO:

1. Identify common food wraps and containers.
   a) baggies
   b) foil
   c) wax paper
   d) freezer paper
   e) plastic wrap
   f) plastic container
   g) air tight containers
   h) jars
2. Explain how to use each type of wrap.

5. Explain reasons for covering food and using containers.

   a) maintains freshness
   b) prevents mold, bacteria increase
   c) keeps flies and other insects from depositing disease

4. Use the best wrap depending on the food to be stored.

5. Prepare food for storage.

   a) wash
   b) separate or slice

6. Describe best place to store common foods.

   a) refrigerator
   b) cabinet
   c) freezer

7. Identify spoiled foods:

   a) rancid odor
   b) slime on meat surface
   c) fermentation of fruit juices (yeast)
   d) sour taste in bland foods

8. Act in precautious manner with "bubbly" or damaged cans.

9. Refrain from refreezing foods.

10. Use refrigerated foods soon after storage.

11. State how long frozen meats/foods will keep.

12. Explain appropriate storage of following foods:

    a) breads
    b) cereals, flours, sugar, spices
    c) dry mixes (cakes, pancake, etc.)
    d) eggs
    e) fats and oils
    f) fruits (fresh, canned to be frozen)
    g) meats, poultry, fish
    h) milk, cream, cheese
    i) vegetables (fresh, canned, to be frozen)
    j) other

IX. MEASUREMENT

THE STUDENT IS ABLE TO:

1. Identify:

   a) measuring spoons
   b) measuring cups - liquid
   c) measuring cups - dry

2. Explain when to use each type of measuring utensil.

   a) small amount
   b) large amount
   c) liquids
   d) solids

3. Explain special considerations when measuring.

   a) pack brown sugar
   b) pack shortening
   c) level with a metal spatula
   d) stick butter has measurements on label
   e) measure all ingredients before adding them together

(MAKE THE FOLLOWING MEASUREMENTS)

4. 1 tsp
5. 1/2 tsp
6. 1/4 tsp
7. 1 T
8. 1/4 cup
9. 1/2 cup
10. 1/3 cup
11. 1 cup
12. 1-1/2 cup; 1-1/4 cup
13. 1-3/4 cup
14. 2 cups

(DRY MEASURE)

15. Select and prepare for use:

    a) utensil for measuring
    b) metal spatula
    c) spoon
    d) bowl for measured ingredient
    e) ingredient to be measured

16. Spoon ingredient into measuring utensil.
17. Measure over sink or papered counter.
18. Fill to desired amount.
19. Level off any excess with metal spatula.
20. Place in bowl, set aside and measure next ingredient.

(LIQUID MEASURE)

21. Select and prepare for use:

    a) utensil for measuring
    b) bowl for measured incredient
    c) liquid to be measured

22. Slowly pour liquid into measuring utensil.

23. Fill to desired amount.

24. Place small amount into bowl and set aside.

25. Place liquids in measuring cups on level surface and read measurement at eye level.

26. Adjust amount by adding to or pouring out if necessary.

27. Pour into bowl and set aside and measure next ingredient.

28. Identify and select:

    a) quarts
    b) pints
    c) gallons
    d) cup

29. Give abbreviations for:

    a) quarts
    b) pints
    c) gallons
    d) cup
    e) tablespoon
    f) teaspoon

30. Explain equivalents for:

    a) 1 cup = 1/2 pint
    b) 2 cups = 1 pint
    c) 4 cups = 2 pints = 1 qt.
    d) 2 qts = 1/2 gallon
    e) 4 qts. = 1 gallon

X. <u>KITCHEN UTENSILS</u>

THE STUDENT IS ABLE TO:

(IDENTIFY THE FOLLOWING UTENSILS)

1. Cookie sheet
2. Cake pans
3. Bundt, angel food pans, spring form pans
4. Loaf pan
5. Pie plates
6. Sifter
7. Rolling pin

8. Biscuit cutter
9. Spatulas - metal and rubber
10. Mixing bowls
11. Casseroles
12. Pastry Cutter
13. Paring knife
14. Slicing knives
15. Dinner knife
16. Dinner fork
17. Salad fork
18. Teaspoon
19. Tablespoon
20. Soup spoon
21. Serving spoon
22. Ladles
23. Butter knife
24. Sugar spoon
25. Tea kettle
26. Sauce pans (vary in size)
27. Fry pans
28. Double boiler set up
29. Slotted spoon
30. Kettles (vary in size)
31. Broiling pan
32. Kitchen shears
33. Vegetable peeler
34. Collander
35. Dish drainer
36. Pot holders
37. Hot pads
38. Stainless steel storage bowls
39. Hand-operated or electric can opener
40. Cutting board
41. Cooling racks
42. Salad or dessert molds

43. Custard cups
44. Grater
45. Pancake turner
46. Muffin pans
47. Blenders
48. Egg beater or rotary beater
49. Electric mixer - hand or standard
50. Wire whip
51. Bottle opener

XI. RECIPES

THE STUDENT IS ABLE TO:

1. Explain these terms
   a) preheat
   b) mash
   c) saute
   d) marinate
   e) roast
   f) recipe
   g) simmer
   h) baste
   i) bake
   j) cook
   k) boil
   l) parboil
   m) dash
   n) thaw
   o) broil
   p) dice
   q) chop
   r) shread
   s) grate
   t) drain
   u) soak
   v) contents
   w) blend
   x) mix

2. Identify the elements of a good recipe
   a) ingredients and amount listed together
   b) yield
   c) cooking time
   d) step by step instructions
   f) special considerations

3. Read recipes

4. Follow a simple recipe

XII. SNACK FOODS

THE STUDENT IS ABLE TO:

1. Identify a variety of nutritious snack foods.
2. Discuss relative calorie content of various snacks.
3. Compare the nutritional value of various snacks:
    a) ice cream
    b) potato chips
    c) fruit
    d) vegetables
    e) candy
4. Prepare snacks from fresh fruits or vegetables.
5. Prepare 5 nutritious snack foods:
    a) cereal cookies
    b) puddings and custards
    c) milkshakes
    d) cheese snacks
    e) granola, or dried fruit snacks

XIII. BREAKFAST

THE STUDENT IS ABLE TO:

1. State 5 foods which provide a nutritious breakfast.
2. Plan nutritious breakfasts for one week.
3. Prepare a nutritious breakfast.
4. Prepare a nutritious, quick breakfast.
5. Follow a recipe for preparing cooked cereals.
6. Follow a recipe for preparing eggs.
    a) hard or soft cooked
    b) scrambled
    c) poached
    d) fried
7. Follow a recipe for preparing breakfast breads.
    a) pancakes
    b) waffles
    c) french toast
    d) muffins
8. Prepare fruit or vegetable juice:
    a) frozen
    b) fresh
    c) canned
9. Prepare various hot drinks:
    a) cocoa
    b) tea
    c) coffee

10. Prepare various fruits:

    a) serve fruit with cereal
    b) serve fruit as side dish

11. Prepare various meats:

    a) bacon
    b) sausage
    c) other

12. State alternate breakfast foods.

XIV. LUNCHES

THE STUDENT IS ABLE TO:

1. Plan nutritious lunches for a week.
2. Prepare soups:

    a) canned
    b) dried
    c) homemade
    d) frozen

3. Prepare sandwiches:

    a) hot
    b) cold

4. Prepare luncheon salads

    a) vegetable
    b) fruit
    c) molded
    d) protein

5. Prepare luncheon casserole.
6. Prepare beverages:

    a) hot
    b) cold

7. Prepare appropriate desserts.
8. Prepare a complete nutritious lunch.

XV. DINNER (SUPPER)

THE STUDENT IS ABLE TO:

1. State the common food groups comprising a nutritious dinner.
2. Plan nutritious dinners for one week.
3. Prepare common meat dishes:

    a) meat alone
    b) combination dishes

4. Prepare hot and cold vegetable dishes from:

   a) fresh vegetables
   b) frozen vegetables
   c) canned vegetables

5. Prepare rolls and breads:

   a) homemade
   b) frozen
   c) packaged

6. Prepare packaged foods.

7. Prepare dinner beverages.

8. Prepare desserts.

9. Prepare foods to be served at appropriate time and at appropriate temperature.

10. Prepare and serve a complete dinner.

XVI. EQUIPMENT FOR THE HOME

A. THE RANGE

THE STUDENT IS ABLE TO:

1. Identify major accessories on an electric range:

   a) burners
   b) controls for burners
   c) oven
   d) controls for oven
   e) main plug for power source for entire stove
   f) controls for broiler
   g) storage drawer
   h) racks
   i) timer
   j) clock
   k) fan
   l) oven indicator light
   m) special features
   n) oven light

2. Identify major accessories on a gas stove which differ from those on electric ranges:

   a) pilot light for burners
   b) pilot light for oven
      1) automatic
      2) manual
   c) removable pan or tray beneath burners
   d) metal grates
   e) gas ring
   f) major valve which shuts off gas to entire stove

3. List functions of the range:

   a) roast
   b) bake
   c) dry
   d) broil
   e) simmer
   f) boil
   g) fry
   h) warm
   i) deep fry

4. Identify appropriate control for each burner.

5. Identify controls for oven.

6. Adjust racks in oven before turning oven on.

7. Operate ovens:

   a) Select appropriate setting for item to be heated.
   b) Set timer and clock.
   c) Operate fan.
   d) Pre-heat before actually using oven.
   e) Check pre-heat indicator light before inserting any items to be baked or broiled.
   f) Turn oven off as soon as item is baked or broiled.

8. Light pilot light for gas oven, if necessary:

   a) Wooden kitchen matches should be convenient.
   b) Open oven and find pilot light slot.
   c) Turn oven control to "on" position.
   d) Quickly place lighted match over slot for pilot light.
   e) Pilot light will be visible.
   f) Turn gas off in oven immediately when pilot light fails to ignite.
   g) Have stove checked periodically by competent service man.

9. Clean oven:

   a) Follow instructions for self-cleaning ovens.
   b) Follow instructions for cleaning oven with commercial cleaners.
   c) Clean oven with combination of a selected all-purpose cleanser and vigorous scouring.

10. Clean top of range:

   a) Remove detachable parts from around each burner.
   b) Clean each burner separately with hot water and cleaning agent.
   c) Remove all crumbs and undesirable material on or around top of stove.
   d) Clean controls cautiously in order to keep them in "off" position.
   e) Replace cleaned parts to each burner.
   f) Remove tray beneath burners (if applicable) and clean.

B. THE REFRIGERATOR

THE STUDENT IS ABLE TO:

1. Identify parts of the refrigerator.
2. Adjust controls for desired temperature setting.
3. Adjust control for defrosting.
4. Move shelves.
5. Store food in appropriate places in refrigerator.
6. Decide when refrigerator should be defrosted.
7. Follow manufacturer's directions for defrosting.
8. Defrost often to keep down electrical costs.
9. Clean when defrosting refrigerator or as needed.
10. Use mild soap and/or baking soda with water.
11. Use non abrasive tools/sponges, cloths.
12. Remove all food from refrigerator.
13. Turn refrigerator controls to "off" position.
14. Remove shelves and wash separately.
15. Remove hydrators and wash separately.
16. Wash interior of refrigerator, starting at the top.
17. Wash interior door panel.
18. Rinse interior well and wipe dry.
19. Replace shelves and hydrator.
20. Replace food.
21. Turn control to desired temperature and close door.
22. Clean exterior with warm sudsy water and a cloth, wipe dry.
23. Clean up spills as they occur.
24. Have repairs made as soon as needed.
25. Avoid using sharp tools when defrosting.
26. Place a container of charcoal or baking soda in refrigerator to eliminate odors.
27. Store refrigerator unplugged and take door latch completely off.
28. Open refrigerator door as little as possible.

29. Explain points to remember when buying refrigerators.

    a) Decide size needed
    b) Choose left or right side door openings according to placement in kitchen
    c) Frost-free models
    d) Size of freezers
    e) Number of shelves
    f) Special features in ice maker
    g) Color

C. PORTABLE APPLIANCES - GENERAL USE AND CARE

THE STUDENT IS ABLE TO:

1. Read use and care manual before using any appliance.
2. Store appliances correctly, away from water.
3. Explain wattage rating on appliance.
4. Turn appliance off whenever plugging into or disconnecting from an outlet.
5. Know where main switch is located for emergency.
6. Disconnect appliance and have checked if appliance ever gives shock.
7. Keep cords in good repair.
8. Avoid looping cords.
9. Keep use of extension cords at minimum.
    a) Extension cord should be UL listed.
    b) Have appropriate wattage capacity.
    c) Never place under carpet.
    d) Check cords frequently.
10. Explain manufacturers guarantee.
    a) Discuss specific guarantee.
    b) Explain where to go for repairs.
11. Explain warranty. Discuss specific warranty.
12. Explain symbol: UL (Underwriters Laboratories)
13. Explain watt.
14. Keep appliances accessible.
15. Store for maximum use from each appliance.
16. Select and operate a blender according to manufacturer's directions.
17. Select and operate a toaster according to manufacturer's directions.
18. Select and operate a portable hand mixer according to manufacturer's directions.
19. Select and operate a standard mixer according to

20. Select and operate a corn popper according to manufacturer's directions.

21. Select and operate a waffle/sandwich grill according to manufacturer's directions.

22. Select and operate an electric fry pan according to manufacturer's directions.

23. Select and operate hot trays according to manufacturer's directions.

24. Select and operate coffee makers according to manufacturer's directions.

25. Select and operate electric can openers according to manufacturer's directions.

26. Select and operate electric knives according to manufacturer's directions.

XVII. COMMERCIAL GRILL

THE STUDENT IS ABLE TO:

1. Identify the following:

    a) control dials
    b) Grill surface
    c) Grease tray
    d) Grill stone
    e) Automatic fire extinguisher
    f) Hood
    g) Fan switch
    h) Grill oil
    i) Spatula/turner

2. Identify the control dials for each side of grill.

3. Explain the number settings on the control dials.

4. Turn on exhaust fan.

5. Select proper temperature setting for each side of grill.

6. Allow grill to preheat.

7. Coat grill where necessary with grill oil.

8. Place food item on correct side of grill.

9. Scrape excess grease and food into grease tray when necessary.

10. Turn food item as needed.

11. Remove fully cooked food item.

12. Clean and care for commercial grill.

13. Scrape excess food and grease into grease tray while grill is still hot.

14. Use grill stone if food particles are burned on.
15. Wipe off grill with cloth while hot.
16. Allow grill to cool completely.
17. Pour out grease from tray after it has cooled.
18. Wash grease tray with soap and water.
19. Wash down sides and front of grill with soap and water.
20. Dry all areas with cloth.
21. Oil grill and cover when not in use for long periods of time.

FOLLOW SAFETY MEASURES

22. Refrain from leaning on grill.
23. Keep water away from heated grill.
24. Use chemical or CO_2 extinguishers only if grease fire occurs.
25. Follow operator's manual instructions.
26. Always turn exhaust fan on before using the grill.

XVIII. FRYOLATOR

THE STUDENT IS ABLE TO:

1. Identify:
   a) control dials
   b) fry baskets
   c) signal light
   d) cooking well
   e) heating elements
   f) basket drain rack
2. List uses of the fryolator.
   a) meats
   b) potatoes
   c) fish
   d) donuts
3. Turn on exhaust fan.
4. Place vat well in.
5. Turn control dial to proper setting for fat to preheat.
6. Place food in baskets.
7. Slowly lower basket into fat.
8. Hook baskets in place.
9. Allow food to cook completely.
10. Raise basket [illegible]

11. Dump food on paper toweling.

12. Repeat procedures from 6-12 until the desired amount of food is fryed.

13. Clean and replace fat.

14. Turn control dial to "off" position.

15. Filter fat when cooling.

16. Replace filter fat in cooking well.

17. Change fat as needed when:

    a) frying different types of food.
    b) fat is old.
    c) fat has foreign particles.

18. Clean fryolator sides and control panel with soap and water, dry with cloth.

19. Remove fat from cooking well.

20. Wipe off elements and cooking well.

21. Wash well, with soap and water.

22. Rinse carefully, dry with a cloth.

23. Wash baskets with soap and water and dry with a cloth.

24. Explain why exhaust fan must be on before the using of the fryolator.

25. Explain why one never gets water near the fryolator when on.

26. Add fat only before turning on controls.

27. Drain food before removing them from basket.

28. Read manuals instructions.

29. Keep hands, arms, and any other objects out of the cooking well.

30. Place baskets in cooking well slowly.

APPENDIX A

PROJECT EVALUATION

PROJECT OBJECTIVE	EVALUATION OBJECTIVE
#6 To provide learning activity packages which may be used in professional education programs to examine the role of diversified occupations as a career exploration for the mentally handicapped.	#9 To determine if 12 learning activity packages in critical instructional areas have been developed and assess the extent to which the primary objectives to each LAP have been met by the LAP users.
DATA TO BE COLLECTED	TECHNIQUES & INSTRUMENTS
#3 a) 12 b) the extent to which LAP objectives have been met by a sample of users. c) 10 months d) 1) 24 2) ? 3) random e) LAP user scores 70 on LAP post-test	#8 - write LAP's - make a LAP use recording instrument - make a recording index which indicates number of users completing primary objectives

EVALUATION ACTIVITIES
#8 The project staff determines if the primary objectives of 12 LAP's have been completed by a sampling of LAP users.

NUMBER	TIME EST.	DELINEATED TASKS & MILESTONE DATES	START	STOP
8.0	1 week	Determine LAP topics	8-7-72	8-14-72
8.1	3 weeks	Agree upon LAP format with SDE and VOTEC Department	8-7-72	8-28-72
8.2	4 months	Conduct task analysis on each topic	8-28-72	12-18-72
8.3	5 months	Scope and sequence components of LAP's	12-18-72	4-16-73
8.4	1 week	Develop system for collecting and storing materials for LAP's	9-11-72	9-18-72
8.5	8 months	Collect and store materials	9-1-72	5-1-73
8.6	8 months	Determine primary objectives	9-1-72	5-1-73
8.7	8 months	Determine secondary objectives	9-1-72	5-1-73
8.8	8 months	Write pre-tests	9-1-72	5-1-73
8.9	8 months	Write content activities	9-1-72	5-1-73
8.10	8 months	Write post-test	9-1-72	5-1-73
8.11	8 months	Reproducing LAP's	9-1-72	5-1-73
8.12	8 months	Sample LAP's on random populations	9-1-72	5-1-73
8.13	8 months	Revise LAP's	9-1-72	5-1-73
8.14	8 months	Evaluate LAP's on target population	9-1-72	5-1-73
8.15	8 months	Collect post-test data	9-1-72	5-1-73
8.16	8 months	Analyze data	9-1-72	5-1-73
8.17	8 months	Disseminate LAP's	9-1-72	5-1-73

	FREEMAN	SUSWEIN	LESLIE	SCOTT	LAY	KALIL	MURRAY	BUCKLEY
The participant will list the learning characteristics of mentally retarded students which affect the instructor's: curriculum content, instructional material, instructional objectives, and instructional methods.								
The participant will construct a sample pre-test for measuring entry level skills and concepts for an incoming Diversified Occupations student.								
The participant will list the minimum learning prerequisites needed by a student to enter the instructor's vocational training area.								
The participant will submit a task analysis of the behaviors involved in sharpening a pencil and making coffee in a 50 cup percolator.								
The participant will write three terminal performance objectives which specify observable behaviors, conditions of performance, and criteria for evaluating performance. The performance objectives will be related to the teacher's occupational training area.								
The participant will complete in writing the In-Service Training Guide for Teaching Life-Relevant Academics developed by the VOTEX staff.								
The participant will list in writing what support he can expect from Diversified Occupations teachers, and what support he can give to Diversified Occupations teachers when an exchange of Diversified Occupations students takes place.								
The participant will complete a pre-test and post-test and compute the increase in test scores resulting from Diversified Occupations workshop instruction and participation.								

APPENDIX Y

QUESTIONNAIRE FOR D. O. PROGRAMS

Please fill in this form and return it to Bill Halloran at your earliest convenience.

(State-wide totals)

1. (14) _____ Name of school.

2. _____ Name of person filling out the form.

3. (307) _____ Number of students presently enrolled in the D.O. program.

4. 58 (19%) _____ Number of students expected to leave the program this year.

5. (81%) (4%) (5%) _____ Will those graduating receive a high school diploma?
   Yes No

6. 377 _____ Total number of students expected to be enrolled in the D.O. program during the 1974-75 school year.

7. (45%) _____ Percent of male students enrolled in regular Vocational Education courses this year.

8. (40%) _____ Percent of female student enrolled in regular Vocational Education courses this year.

9. (41%) _____ Total number of students enrolled in regular courses (other than Vocational Education) this year.

10. With pay 118 (38%) _____ Number of students involved in part-time or full-time work situations.
    Without pay 4 (1%)

11. 93 (30%) _____ Number of students in work situations in which the school was responsible for making the placement (both co-op coordinators and D.O. staff members).

APPENDIX Y

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[illegible] enrolled in the [illegible] Diversified Occupations [illegible] June 21 - 25, 1971

The course was very enlightening and I feel this type of activity should be promoted. If all teachers and the general public were made more aware of what special education is, I believe there would be less resistence to it.

The only thing I question is the length/day. Generally, the morning sessions carried more participation just because of the time factor.

[illegible] should be promoted also. This type of activity will foster more willingness on the part of all to work with EMR's in the "normal" school situations.

Workshops are always exciting, interesting and productive, in my experience. I thought the leadership of this course was excellent - good diversity of content and personality.

I gain a great insight into D.O. and its ramifications from 295C.

Happy to see the reactions of those outside the D.O. program to what we're trying to do and the students with whom we are working.

Specific work on Task Analysis, behavioral objectives, etc. were very valuable.

I have gained an understanding of the EMR and what the D.O. Program is all about. The history was beneficial, the defining of EMR and background info was good. I have counseled some of these kids and did not know just how to treat them. I have a much clearer picture now.

The Task Analysis was not stimulating because I had been through it before (called other things). Behavioral objectives was worthwhile. I feel as though I have some ammo to use on regular teachers, administration, etc. to help the D.O. Program.

I have enjoyed this course very much and I certainly have a better understanding of special education. Some of the terms I still find confusing, and I think they should be changed - namely EMR, TMR, and special education.

A very good course should be required for all teachers K-12. In fact, some of it would benefit the general public.

Very [illegible] - it will help very much in teaching next year.

Realization of the need to [illegible] in the field of the mentally and physically retarded. Appreciation of the need not to ignore that these people can be helped in many ways in the vocational program.

The need to consider where the EMR student as an individual starts from when in the vocational program in order to appreciate that in some cases extra aid can be given in the D.O. program.

Knowledge that many cases can be "trained" and not mentally "written off" as helpless.

Knowledge that the way is open on my part to encourage participation in my course of the D.O. student.

Education in how to make it much easier to handle D.O. students; by efficient record keeping, on task analysis, cooperation and close working with D.O. colleagues

---

I was very pleased with the course - I really learned a lot about the EMR's, TMR's and custodial - my experience of 1 st summer was meaningful to me. However, I believe I would have done a better job last year if I had had this introduction first - Brandon was a good field trip but sure left a lot of questions in my mind which I shall continue to seek answers for.

You made this a very interesting course and I wish more teachers would feel the need for enrolling in another session - I'll do my best to enlist their cooperation

You've sold me!

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APPENDIX Y

TITLE: Increasing Academic Accomplishment

AUTHOR: Brian M. S. Lack
Coordinator
Diversified Occupations
Sapulding High School
Barre, Vermont

Referral Problem: Larry was assigned a prescribed number of arithmetic problems in a programmed workbook. Unfortunately he failed to complete his assignments. Rather he stared aimlessly out the window, doodled, whispered to classmates, or sat idly in his seat. As a result he failed to meet the objectives of the math period and disrupted the attneding behavior of classmates.

Student: Larry was a 16 year old student who had been labelled educable mentally handicapped by school administrators. He had been placed in a regular vocational program but was dismessed from the program for fighting with students in the program. Thus, he had lost a privilege which had maintained much of his interest in school. The teacher who dismessed him from his program noted that Larry was bantered for his "awkward" social and intellectual functioning. When he retaliated by fighting with students bantering him it was decided he should be removed from the program.

Setting: The classroom consisted of desks arranged in groups of four. Approximately 10 students were in the classroom during the math period. Several types of media and texts were available in the classroom.

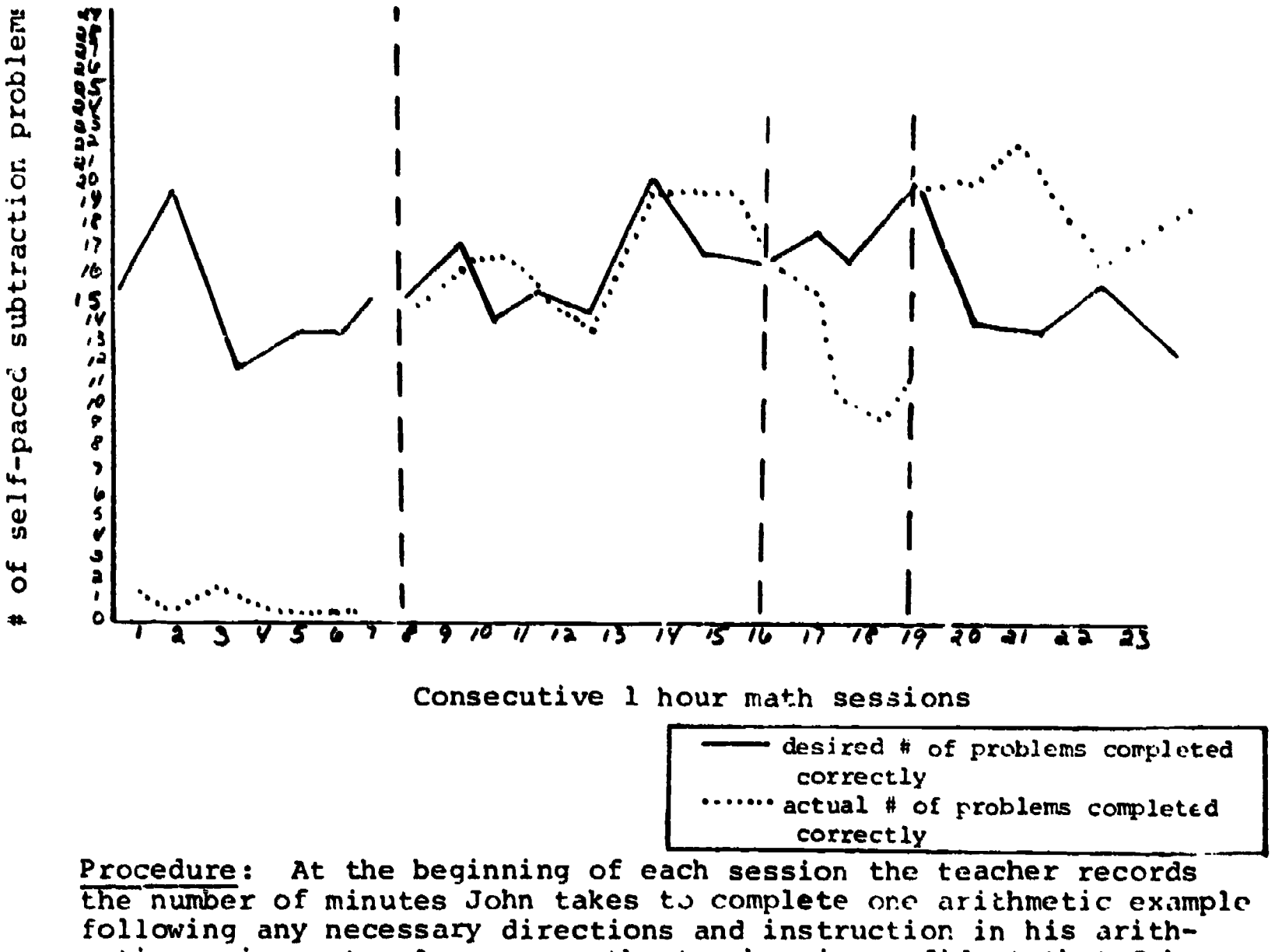
Instructional Objective: Given a prescribed number of problems to complete in a programmed math workbook and an opportunity for playing one round of cards if the problems are completed the student will complete the prescribed math problems with 90% accuracy within 30 minutes.

Measurement and Reliability Procedures: A graph for recording prescribed numbers of math problems was developed. The teacher plotted a prescribed number of problems that the student was to complete during a 30 minute period to earn the opportunity to play 1 round of cards. At the end of each learning session the teacher corrected the completed problems and plotted the number of examples done correctly - results were immediately given to the student. Reliability checks were made by another teacher in the program. Reliability was 100%. Baseline measures were made before telling Larry what behavior was expected from him and what the contingency for appropriate behavior would be. During a reversal period a dramatic decrease was evident. It was doubtful if the student would respond to reinstatement of the contingencies because he felt he was owed points for the reversal period. Fortunately, resuming the contingency resulted in appropriate behavior.

Teaching/Learning Procedures: At the beginning of each session the teacher records the number of minutes Larry takes to complete one arithmetic example following any necessary directions and instruction in his arithmetic assignement. As soon as the teacher has observed that Larry is able to complete additional problems without assistance he plots on the graph the number of problems that Larry should be able to complete during

a thirty minute session. This number is derived by dividing the number of minutes to complete one problem correctly and indipendently into 20 minutes. 20 rather than 30 minutes is used to allow for normal interruptions and for differences in the difficulty of various problems. If Larry completes the prescribed (and plotted) number of problems, he is allowed to play one round of cards during an afternoon session. The contingency is withdrawn, however, if he fails to complete the prescribed number of problems that the teacher has plotted on his graph.

Results: The number of problems Larry completed increased significantly when reinforced with the privilege of playing a round of cards. The teacher feels that a reversal should not have been introduced into the teaching/learning procedure. This study confirms the fact that reinforcers are readily available and can be effectively employed at the high school level.



Procedure: At the beginning of each session the teacher records the number of minutes John takes to complete one arithmetic example following any necessary directions and instruction in his arithmetic assignment. As soon as the teacher is confident that John is able to complete additional problems without assistance he plots on the graph the number of problems that John should be able to complete during a one hour session. This number is derived by dividing the number of minutes to complete one problem correctly and independently into 50 minutes. 50 rather than 60 minutes is used to allow for normal interruptions and for differences in the difficulty of various problems. If John completes the prescribed (and plotted) number of problems, he is allowed to play one round of during an afternoon session. Furthermore, if he exceeds his goal he can choose his own partner for the PM card game. Both contingencies are withdrawn, however, if he fails to complete the prescribed number of problems that the teacher has plotted on his graph.

Results.....

APPENDIX Z

Program of Work Proposed

for

UVM/VOTEC Diversified Occupations Staff Position

March 1, 1974

William Halloran
Marc Hull

UVM/VOTEC Instructor Program Plan 7/1/74 to 6/30/75

1.1 To provide and assist educational units in the exploration, development and maintenance of programs and services which meet the educational needs of students.

1.1.1 To assist school personnel, parents, and community agencies in providing appropriate programming for students through evaluations, consultation and demonstration teaching relating to individual students.

1.1.1.1 UVM/VOTEC-1 (74) By November 15, 1974 the VOTEC D.O. instructor will prepare 3 model lessons to be used for demonstration teaching in Diversified Occupations programs. Each unit will consist of objectives, pre-test, at least 3 modes of direct purposeful teaching, and post tests. Of teh 3 units, one will be suitable for the homemaking lab, one for the general shop, and one for the D.O. classroom. A copy of each demonstration lesson will be approved and maintained by Special Education's D.O. Consultant and by the VOTEC D.O. instructor.

1.1.1.2 UVM/VOTEC-1 (75) By June 30, 1975 the VOTEC D.O. instructor, upon request, will demonstrate model lessons and such teaching techniques as 1) concept teaching 2) questioning techniques 3) verbal reinforcement 4) token reinforcement 5) demonstrations 6) multi-media presentations. The instructor will demonstrate the lessons and techniques in D.O. programs upon request of a special Education D.O. Consultant or Area Vocational Center director. A report of all demonstration teaching activities will be submitted to Special Education's D.O. Consultant.

1.1.2 Provide for the improvement of programs, services and instruction offered to students through in-service training of all necessary personnel.

1.1.2.1 UVM/VOTEC-1 (74) By September 30, 1974 the VOTEC D.O. instructor will develop an instrument for assessing essential teaching competencies of all Area Vocational Center personnel (including D.O. instructors) who anticipate teaching Diversified Occupations students on a full or part time basis. The instrument will consist of a 5 point rating scale and will assess knowledge of, use of, and opinion of essential teaching competencies selected from the research of Bateman, Brolin, Cotrell, Kruppa or other experts in the fields of Vocational Education/Special Education. A copy of the assessment instrument

will be presented to Special Education's D.O. Consultant prior to September 30, 1974, for his approval and filing. Sufficient copies will be prepared for use in all Area Vocational Centers with Diversified Occupations programs.

1.1.2.2 UVM/VOTEC-1 (74) By December 30, 1974 the VOTEC Diversified Occupations instructor in conjunction with Special Education's D.O. Consultant will assess the in-service training needs of at least four Area Vocational Centers using an assessment instrument developed by the VOTEC instructor. A series of graphs, charts, or computer analyses will be prepared by the VOTEC instructor which depict the findings of theassessment activities. A summary tabulation of the results of the assessment activities will be presented to the Special Education Pupil Personnel Services director, Diversified Occupations Consultant, and all Area Vocational Center directors; priorities for further training activities may be based on the assessment activity results.

1.1.2.3 UVM/VOTEC-1 (75) By March 15, 1975 the VOTEC Diversified Occupations instructor will prepare 5 learning modules designed to teach 5 competencies essential for instructing Diversified Occupations students and based on needs identified by previous assessment activities. Each module will consist of training objectives and training activities approved by Special Education's D.O. Consultant. The modules will present information in a variety of modes and will be largely self-paced and self-instructional with evaluation components that may be assessed by Area Vocational Center Diversified Occupations instructors, Special Education Consultants or VOTEC staff. After the modules are used by a sample population, they will be reevaluated until approved by user, developer, and Special Education Pupil Personnel Services director for review by April 15, 1975. A list of people using the modules will be maintained and presented to Special Education's D.O. Consultant in June and December of each year these are used.

1.1.2.4 UVM/VOTEC-1 (75) By June 30, 1975 the VOTEC Diversified Occupations instructor will prepare a total of 10 learning modules designed to teach 10 competencies essential for instructing Diversified Occupations students and based on needs identified by previous assessment activities. Each module will consist of training objectives and training activities approved by Special Education's D.O. Consultant. The modules will present information in a variety of modes

and will be largely self-paced and self-instructional with evaluation components that may be assessed by Area Vocational Center Diversified Occupations instructors, Special Education Consultants or VOTEC staff. After the modules are used by a sample population they will be reevaluated until approved by user, developer, and Special Education's D.O. Consultant. The 10 completed modules will be presented to the Special Education Pupil Personnel Services director for review by August 30, 1975. A list of people using the modules will be maintained and presented to Special Education's D.O. Consultant in June and December of each year of use.

1.1.2.5 UVM/VOTEC-9 (74) By September 15, 1974 the VOTEC instructor will develop and disseminate a request form for in-service training session presentations by the VOTEC instructor. At least 5 topics will be suggested as possible presentations. A copy of the request form will be presented to Special Education's D.O. Consultant and any responses to the request form will be maintained and reported to the Special Education D.O. Consultant in June of 1975.

1.1.2.6 UVM/VOTEC-12 (74) By December 30, 1974 the VOTEC instructor will develop 5 one-hour presentations for use in Area Vocational Center staff in-service training sessions. The presentations will focus on selected topics related to vocational education for thehandicapped. Each presentation will use a variety of instructional modes and have a specific training objective. An evaluation of each presentation will be made by an Area Vocational Center director or his staff designate. Presentations will be revised when evaluations indicate the need for changes. A list of any presentations made at in-service training sessions and their Area Vocational Center director evaluations will be maintained and submitted to the Special Education Pupil Personnel Service's D.O. Consultant in June of 1975.

1.1.2.7 UVM/VOTEC-10 (74) By October 15, 1974 the VOTEC Diversified Occupations instructor in conjunction with the Assistant Director of Special Education Pupil Personnel Services will identify a consortium of special education personnel to assess various materials and techniques for teaching essential reading and math skills to Diversified Occupations students. The consortium will involve Special Education Pupil Personnel Services staff, VOTEC instructors, Diversified Occupations classroom instructors, consulting teachers, and other Special Education personnel as desired. A list of consortium

members and proposed meeting dates and places will be presented to the Special Education Pupil Personnel Services director by October 30, 1974.

1.1.2.8 UVM/VOTEC-6 (75) By June 30, 1975 the VOTEC Diversified Occupations instructor will submit a report of all activities of the consortium assessing the teaching of reading and math skills to Diversified Occupations students. The report and any related recommendations will be submitted to the director of Special Education and Pupil Personnel Services by June 30, 1975.

1.1.2.9 UVM/VOTEC-1&6 (75) By January 30 and June 30, 1975 the VOTEC Diversified Occupations instructor will submit a list of all Diversified Occupations personnel and other Area Vocational Center staff who are enrolled in VOTC courses or degree programs at the university. The academic status of each enrollee will be stated and revised upon completion of additional VOTEC courses or degree requirements.

1.1.2.10 UVM/VOTEC-12 (74) By December 30, 1974 the VOTEC instructor will instruct two VOTC courses. At least one course will be on campus. The content for each course will be determined in conjunction with Special Education's D.O. Consultant and VOTEC's Department Chairman. At least 85% of those enrolled in the courses will attain 90% of their course objectives. A checklist of objectives and enrollees' achievements will be submitted to the Special Education's D.O. Consultant upon completion of each course. This responsibility will be expected to consume approximately 50% of the instructor's total hours of employment for the period August 1, 1974 through December 30, 1974.

1.1.2.11 UVM/VOTEC-6 (75) By June 15, 1975 the VOTEC instructor will instruct two spring semester undergraduate or graduate level VOTC courses. The content for each will be determined in conjunction with the Special Education's D.O. Consultant and VOTEC's Department Chairman. At least 85% of those enrolled will attain 90% of the course objectives. A checklist of objectives and enrollees achievements will be submitted to Special Education's D.O. Consultant upon completion of each course. Course preparation will be expected to consume approximately 50% of the instructor's total hours of employment for the period January 1, 1974 through June 30, 1975.

1.1.2.12 UVM/VOTEC-7 (74) By July 30, 1974 the VOTEC instructor will obtain a written agreement to have a minimum of 3 hours of course time devoted to the study of the Diversified Occupations concept in at least one required home economics course and one required VOTC course. A copy of the agreement will be presented to Special Education's D.O. Consultant by July 30, 1974.

1.1.2.13 UVM/VOTEC-9 (74) By September 30, 1974 the VOTEC instructor will develop an instructional unit consisting of objectives, learning materials, and post tests for a three hour component for a selected Home Economics and VOTEC required course. A copy of intended units will be presented to the Special Education's D.O. Consultant for approval or revision prior to September 30, 1974. Tabulations of all post test results and a written evaluation of components by Home Economics Department chairman and VOTEC Department chairman will be presented to Special Education's D.O. Consultant upon completion of any semester in which components are used.

1.1.3 Assist in the design, planning and necessary consultation for improvement and implementation of programs provided by the educational unit.

1.1.3.1 UVM/VOTEC-1 (75) By June 30, 1975 the COTEC instructor will assess the use of Comprehensive Achievement Monitoring Guides in a sample of 3 area vocational centers. Upon completing the assessment, the instructor will present a report to Special Education's D.O. Consultant summarizing 1) the need for additional Comprehensive Achievement Monitoring sets in prescribed areas os study, 2) the need of revisions of existing C.A.M.s and 3) the perceived value of the C.A.M.s by Diversified Occupations personnel and other area vocational center staff. This report will be submitted by June 30, 1975.

1.1.4 Explore new strategies of serving students by conducting and assisting others in research, pilot projects, and other appropriate methods.

1.1.4.1 UVM/VOTEC-1 (74) By November 15, 1974 the VOTEC instructor in conjunction with Special Education's D.O. Consultant will identify three areas of research related to the needs of D.O. programs. Specific research objectives will be stated by November 15, 1974 and presented to the director of Special Education Pupil Personnel Services and the VOTEC Department Chairman for final approval.

1.1.4.2 UVM/VOTEC-1 (75) By June 30, 1975 the VOTEC instructor in conjunction with the Special Education's D.O. Consultant will prepare a summary of all research activities conducted during the year. The summary will include an annotated bibliography of all literature reviewed in the research effort, plus a description of activities pertaining to the research objectives. At least one article will be submitted to a special educational journal describing one of the research efforts or some other phase of the Diversified Occupations program. A copy of the article submitted for publication will be presented to Special Education's D.O. Consultant by July 30, 1975.

1.2 To provide and assist educational units in programming for students through budgetary, management information, program planning and financial assistance.

1.2.1 Assist in the planning, pupil accounting and approval of local programs, personnel and equipment for reimbursement of federal, state and other financial aid.

1.2.1.1 UVM/VOTEC-1 (74) By October 15, 1974 the VOTEC instructor will identify a procedure for assessing what instructional materials are used in D.O. classrooms in the 15 area vocational centers. The assessment instrument will provide for teacher evaluation or rating of all materials. The VOTEC instructor will seek the guidance of personnel from the New England Instructional Materials Center staff at Boston University and personnel from the N.E.I.M.C. satellite staff at Trinity College. The assessment instrument will be presented to Special Education's D.O. Consultant for approval by October 15, 1974.

1.2.1.2 UVM/VOTEC-1 (74) By March 1, 1975 the VOTEC instructor will complete asn assessment and evaluation of instructional materials used in D.O. classrooms. A tabulation of findings from the assessment activities will be submitted to Special Education's D.O. Consultant by March 15, 1975. The report should contain recommendations which may be used in advising instructors who wish to purchase additional instructional materials.

1.3 To provide for the improvement and coordination of professional services offered by the educational unit.

1.3.1 Initiate and maintain liaison services with educational and non-educational organizations providing services for the handicapped.

1.3.1.1 UVM/VOTEC-1 (75) By June 30, 1975 the VOTEC instructor will assist Special Education's D.O. Consultant in providing information and consultation for local agencies which are developing and operating vocational

programs for the handicapped. A list of workshops and consultations will be submitted to the Special Education's D.O. Consultant by June 30, 1975.

1.3.2 To insure continuity and coordination of programs, provide for intra-office communication and relations with other educational programs providing services for students.

1.3.2.1 UVM/VOTEC-1 (75) By June 30, 1975 the VOTEC Diversified Occupations instructor will submit a report of all regular VOTEC departmental assignments and significant activities including conferences and conventions to the Special Education's D.O. Consultant. The report will give estimates of hours devoted to the various assignments and activities. A copy of the report will also be submitted to the VOTEC department chairman and Special Education's D.O. Consultant by June 30, 1975.

1.3.3 To insure the application of current educational practice, provide for continuing education through development of staff competencies.

1.3.3.1 UVM/VOTEC-1 (74) By September 1, 1974 the VOTEC instructor will confer with the VOTEC department chairman and Special Education's D.O. Consultant to ascertain if the instructor should enroll in any university courses which would be of special interest to the instructor or the D.O. program. After conferring, the instructor will enroll in any course recommended by the VOTEC chairman and Special Education Consultant.

1.3.4 To provide program continuity and quality services through recruiting of qualified personnel.

1.3.4.1 UVM/VOTEC-1 (74&75) By November 30, 1974 and February 28, 1975 the VOTEC instructor will submit a list of all anticipated Home Economics graduates and VOTEC graduates who have completed at least three credit hours of Diversified Occupations courses. The list will state whether the student is available for employment, and if possible, will state whether the instructor recommends the individual for employment within Diversified Occupations programs.

UVM/VCTEC #1-6 Months Summary of Work Objectives

1.1.2.12
agreement for D.O. in Home Ec. and VOTEC

1.1.2.1
competency survey instrument

1.1.2.5
in-service requests

1.1.2.7
reading & math consortium

1.1.2.13
unit for VOTC & Home Ec. courses

1.2.1.1
instructional materials survey instrument

1.3.3.1
enroll in courses if needed

1.1.1.1
three demonstration lessons

1.1.4.1
research identified

1.3.4.1
list of anticipated Dec. graduates available for D.O.

1.1.2.2
competency survey

1.1.2.6
in-service presentation prepared

1.1.2.10
VOTC D.O. course completed

July o o o o

August o o o o

September o o o o

October o o o o

November o o o o

December o o o o

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January	Feb.	March	April	May	June
1.1.2.9 VOTC enrollee update		1.1.2.3 5 modules of instruction			1.1.1.2 demonstration teaching
		1.2.1.2 instructional materials report			1.1.2.4 10 modules of instruction
					1.1.2.6 report of in-service presentations
					1.1.2.8 recommendations of reading and math consortium
					1.1.2.9 VOTC enrollee update
					1.3.1.1 report on workshops
					1.1.2.11 VOTC D.O. course completed
					1.3.2.1 report on VOTEC duties
					1.1.3.1 report of C.A.M. use
		1.3.4.1 list of anticipated June graduates			